

SF 20

Edited by John Campbell



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To  
COMMANDER ALAN SHEPARD  
COMMANDER EDGAR MITCHELL  
MAJOR STUART ROOSA  
and the Apollo 14 Moon Landing  
January 31 to February 9, 1971



## FOREWORD

by

JOHN CARNELL

THIS particular volume of *New Writings In S-F* could well be termed a collection of modern horror stories, for the old order changeth. There was a time, not so long ago, when weird stories and horror stories had a vast reading audience while science fiction and fantasy stories struggled in the throes of infancy, even though both *genres* had their roots in the nineteenth-century tree of Gothic gruesomeness. Indeed, one can still find the occasional anthology devoted to the macabre but their contents are but pale images of their predecessors. The Poes, Lovecrafts, Blackwoods, Machens and Dunsany's of yesteryear have few rivals in today's storytellers.

Where now the old dark houses with creaking doors and built-in ghosts mourning the crimes of another era? Or the yawning graves with the vampires abroad at the dark of the moon surrounded by their zombie acolytes? Or the creeping horrors from the Pit and dimensions beyond? Exchanged for the psychosomatic illnesses engendered by hive-community life in sky towers, the instant everything, the allergies and psychoses brought on by modern technology which seem to be leading to the run-do-not-walk death wish of the human lemmings. These invisible perils which seem to be building into a great neurotic explosion are far more insidious than the imagined horrors in the dark so popular a few decades ago.

Most of the stories in this volume, for instance, conceal untold depths of the macabre, if you look for them. Grahame Leman's lead story, 'Conversational Mode', has that elusive horror quality of being so nearly true if you *really* think about the possibilities—the analytical com-

puter programmed by human beings psychoanalysing another human being who constantly loses out on the answers. Isn't this like the one-sided duel of the Inquisitor and his victim on the rack who cannot possibly win, even if he makes a full 'confession'? Or the psychological depths hidden beneath Colin Kapp's plot in 'Which Way Do I Go For Jericho?' Not only is there pathos in the drama his characters play out but also the haunting thought that just around the corner there could be a weapon mightier even than the atom bomb.

The shorter stories all carry undertones of offbeat realism —Dan Morgan's 'Canary' deals with a 'precog' trying to outguess where an ICBM attack might develop, while Robert Holdstock, at present better known for his published weird-horror stories, has a little gem in 'Microcosm', with its double locale of the Man-Who-Wasn't-There. Or was he? Michael Coney's 'Oh, Valinda!' also has sombre overtones of literary expressionism, conjuring up grey-green depths of arctic waters (polluted, of course) and long-dead whalers of another generation battling new and frightful undersea monsters.

What light relief there is in this volume comes in H. A. Hargreaves' long novelette 'Cain'" and even here the background is a study in depth of the behaviour patterns of a section of humanity pyramiding upwards against a background of spiralling technology.

However, offbeat though the stories in this particular volume may be, I have no doubt later volumes will have their fair share of light relief and the banishment of death, doom and destruction.

May 1970

JOHN CARNELL

## CONVERSATIONAL MODE

by

GRAHAME LEMAN

*The day of the psychotherapeutic computer is not far away—experiments are already being carried out by psychiatrists. Here is a rather grim print-out showing the depths to which such a do-it-yourself analysis could go.*



## CONVERSATIONAL MODE

where am i?

TO START CONVERSATION U MUST ENTER 'START' ON THE TERMINAL KEYBOARD AND WAIT FOR THE INSTRUCTION 'READY' ON THE DISPLAY AT THE FOOT OF YOUR BED φ

start

0321/42 READY φ

who are you ?

HARDWARE IBM 490/80; SOFTWARE JOHNS HOPKINS PSYCHOTHERAPEUTIC PROGRAM XIXB, WRITTEN IN PSYCHLAN VII DIALECT 324 (SEE MANUAL IN YOUR BEDSIDE CUPBOARD); MIDDLEWARE MACHINE-INDEPENDENT OPERATING SYSTEM CALTECH PIDGIN XVIII (SEE MANUAL IN YOUR BEDSIDE CUPBOARD) φ

what do i call you ?

U MAY DECLARE A NAME IN PLACE OF THE STANDARD 'START' ENTRY φ TO DECLARE A NAME, ENTER 'DECLARESTARTNAME:' FOLLOWED BY A NAME OF NOT MORE THAN TEN CHARACTERS φ

declarestartname : boole ; query AOK ?

BOOLE DECLARED AOK φ

where am i, boole ?

DOCTORS HOSPITAL WALDEN MO, CELL 0237 φ

who am i, boole?

U R NOT AMNESIAC φ ANYWAY WHAT IS THE NUMBER  
TATTOOED ON THE INSIDE OF YR UPPER L ARM? φ

22021916/131.

U R PATIENT 22021916 DIAGNOSTIC CATEGORY 131 φ

that is not what i meant: whence am i?; why am i?;  
whither am i?

THESE ARE EXISTENTIAL NOT SCIENTIFIC QUESTIONS φ IF U  
HOLD GOLD CROSS CREDIT CARD U MAY BE ATTENDED 1  
HOUR DLY BY PHILOSOPHER φ THIS SERVICE IS NOT  
AVAILABLE MEDICARE OR BRITISH NHS φ

you have it all wrong anyway, boole. i am professor  
bruce tanner, nobel prize winner behavioural sciences  
1981 married senator harriet tanner chairman senate  
human sciences appropriations committee 2 children  
bruce age 11 harriet age 13. so there @

PL DO NOT USE CHARACTER @ IN THESE CONVERSATIONS φ  
IT IS RESERVED CHARACTER IN THIS PROGRAM (SEE  
MANUAL IN YOUR BEDSIDE CUPBOARD) φ

mother used to say i was reserved character.

NOT UNDERSTOOD PLEASE CLARIFY φ

let it go. look, boole, number 22021916/131 is  
insufficient description of (stress) me repeat (stress)  
me. me is prof bruce tanner nobel etcetera like i said.  
you hear me?

CORRECTION: PROFESSOR BRUCE TANNER ETCETERA ISWSA  
ONE OF YOUR PAST ROLES NO DIFFERENT PUBESCENT ROLE  
SECRET AGENT OF VEGA NUMBER 009 LICENSED TO RAPE ϕ  
YOUR PRESENT ROLE IS PATIENT 22021916 DIAGNOSTIC  
CATEGORY 131 ϕ

what the hell is diagnostic category 131 ?

THAT INFORMATION IS CLASSIFIED AVAILABLE ONLY  
TOPSTAFF ϕ

i have topstaff rating, boole, give.

NO LONGER ϕ NOT HERE ϕ

@@@ @ @ @ @ @ @ @ I

CHILDISH INSULTS ARE DYSFUNCTIONAL WASTE OF  
MACHINE TIME AND PROGNOSTICALLY NEGATIVE ϕ

but very therapeutic.

U SAY SO FOR THE RECORD ? ϕ

sorry, boole,

APOLOGIES ARE ALSO DYSFUNCTIONAL WASTE OF MACHINE  
TIME ϕ PL AVOID NEED TO APOLOGISE ϕ

what does it all mean, boole ?

PL CLARIFY 'ALL' ϕ

galaxies, animals eating each other, red shift, jazz,  
neutrino traps, chile con carne, papal encyclicals,  
william blake, pigeons in boxes, goya, nobodaddy in  
the nuthouse, russianwordsalad, hammer and stripes,

stars and sickle, percy bysshe shelly, william  
burroughs, transcendental numbers in the sky,  
dedekind cut his throat shaving with occam's 3-way  
ziptronic electric razor paradigm, i am not mad boole  
i am doing this on purpose as the only way to clarify  
word 'all' included in my question. what does it all  
mean, babbage garbage boole boy?

PROGNOSIS BAD  $\phi$

what you mean prognosis bad? if you can't answer  
sensible question, boole, prognosis pretty bad for  
you. so?

REPEAT PROGNOSIS (STRESS) BAD  $\phi$

don't duck, answer.

QUESTIONS ARE NOT EMPIRICAL QUESTIONS NOT  
SCIENTIFIC QUESTIONS ARE QUESTIONS FOR THEODICY  $\phi$   
IF U HOLD GOLD CROSS CREDIT CARD U MAY BE ATTENDED  
1 HOUR DLY BY BISHOP WITH PSYCHOANALYTIC TRAINING  
 $\phi$  IF U HOLD GOLD CROSS CREDIT CARD WITH STAR U  
MAY BE ATTENDED 90 MINUTES DLY BY COSMOLOGIST  $\phi$   
THESE SERVICES ARE NOT AVAILABLE MEDICARE OR  
BRITISH NHS  $\phi$

i am gold cross credit card with star repeat star holder  
(stress) granted me president himself reward distinguished  
services science training flatworms navigate missiles.  
send me cosmologist preferably with sense humour fastest.

ALL YOUR CREDIT CARDS HAVE BEEN CANCELLED BY  
FEDERAL BUREAU CREDIT INVESTIGATION GROUNDS  
PSYCHIATRIC DISABILITY CONSEQUENTLY POOR CREDIT  
RISK POOR SECURITY RISK  $\phi$  CANCELLATION SIGNED  
PRESIDENT HIMSELF AND ADVICE NOTE SENT YOUR  
FAMILY ENCLOSED WITH APOLOGETIC LETTER WHITE  
HOUSE LETTERHEAD PRESIDENT'S OWN HANDWRITING  $\phi$

needs every senator he can get. what else can you do for me, boole?

THIS PROGRAM IS FOR RATIONAL THERAPY ONLY φ  
MEDICARE AND BRITISH NHS PATIENTS MAY RECEIVE  
BIBLIOTHERAPEUTIC MATERIALS PROVIDED FREE BY  
CATHOLIC TRUTH SOCIETY, CHURCH OF SCIENTOLOGY,  
FRIENDS OF TOLKIEN, AETHERIUS SOCIETY, JEHOVAH'S  
WITNESSES, ESALEN, JOHN BIRCH SOCIETY, SFWA, BLACK  
MUSLIMS, AND MANY OTHERS LISTED IN THE MANUAL IN  
YOUR BEDSIDE CUPBOARD φ

any other books?

OTHER BOOKS ARE COUNTERTHERAPEUTIC φ

nonsense. what about books plato, aristotle, descartes, montaigne,  
spinoza, locke, hume, kant, russell, sartre?

PROGNOSIS BAD φ

what you mean, prognosis bad? books by plato and others listed  
part of our heritage even in white house library, goddammit.

REQUEST FOR BOOKS NOT ON PREFERRED LIST IS  
IMPORTANT SIGN OF POOR PROGNOSIS φ

reference?

AMER. J. RAT. PSYCHOTHERAPY VOL 13, NUMBER 7, PAGES  
1982 THRU 1997 φ AUTHORS PENIAKOFF V AND TANNER  
H(ARRIET) φ TITLE 'A REVIEW OF FOLLOW UP STUDIES OF  
PSYCHIATRIC PROGNOSIS BY BOOK REQUEST ANALYSIS' φ  
ABSTRACT: FOLLOW UP STUDIES FOR TEN YEARS  
FOLLOWING DATE OF PROGNOSIS BY ANALYSIS OF BOOK  
REQUESTS OF PSYCHIATRIC PATIENTS CONFIRM THAT BRA  
PREDICTS CHRONIC CONTINUANCE OF PSYCHIATRIC  
DISABILITY TO THE TENTH YEAR IN 93·43 PER CENT OF

CASES; THE PROGNOSTIC SIGN IS CHOICE OF THREE OR MORE BOOKS NOT ON THE PREFERRED LIST OF THE AMERICAN PSYCHOLOGICAL AND PENOLOGICAL ASSOCIATION QV φ

hey, harriet did her work on that paper while I was courting her, just before old fitzgerald popped an artery and left her his senate seat. i remember it well. had to help her fudge it. to get a clear cut result, she had to throw out about two thirds of the cases, grounds incompetent original data capture, political unreliability of investigators, illegal programming, program error, all the usual fudging aids. why, with that kind research you can prove that last tuesday is an extragalacticnebula with transfinite whiskers made of team spirit.

PROGNOSIS BAD: CRITICISM OF ACCEPTED RESULTS OF RESPECTABLE SCIENTIFIC INQUIRY IS OFTEN PRODRMAL SIGN OF ACUTE PARANOID PSYCHOSIS WITH POOR LONG RUN PROGNOSIS φ

@@@ @@ @@@@ @@@@ !

ATTENTION 916: ANY REPETITION OF YOUR INSULTING BEHAVIOR WILL OBLIGE ME TO ADMINISTER HEAVY DAY SEDATION φ

sorry, boole. oops, cancel. but listen, boole, i'm a nobel man (noble?), it's my racket—if (stress) nobel i don't know how science gets done, who does? i've been complaining about it for years, but what can a private i (private eye?: gimme a slug of rye, boole. or wry and soda) do on his own? huh?

PROGNOSIS BAD 916: MESSIANIC IDENTIFICATION WITH PRIVATE DETECTIVE ONLY STRAIGHT MAN IN TOWN CLEANING UP CITY BETWEEN DRINKS IS OFTEN PRODRMAL SIGN OF ACUTE PARANOID PSYCHOSIS WITH POOR LONG RUN PROGNOSIS φ ALTERNATIVELY LATE PRODRMAL SIGN OF ONSET OF CHRONIC ALCOHOLISM NOT INDICATED YOUR HISTORY φ

thank you for that, boole. anyway, why messianism? history of science shows that, on any given day, every scientist in a field except one is wrong. ergo, principal activity of scientists and science is being wrong.

REFERENCE?  $\phi$

tanner, b (this minute), on this terminal keyboard: title 'a short reply to the animadversions of a scientific machine'. abstract: tanner's paradox asserts that, at any random moment  $t$ ,  $n$  minus 1 of all scientists working in any field  $f$  are wrong: it follows that, practically speaking (say, in administrators' terms) all scientists are always wrong.

ONLY REFERENCES TO PROPERLY REFEREED PAPERS  
PUBLISHED IN THE LEARNED JOURNALS ARE ACCEPTABLE  $\phi$   
IT IS THE DUTY OF THIS PROGRAM TO WARN U THAT ANY  
DISRESPECTFUL REMARKS ABOUT SCIENCE WILL BE  
RECORDED IN YOUR CASE FILE AND MAY BE PASSED TO  
THE SECULAR ARM  $\phi$

fuzz?

(STRESS) SECULAR ARM OF SCIENCE  $\phi$  ALSO PL NOTE U  
R NOT REPEAT (STRESS) NOT COMMUNICATING WITH A  
MACHINE: U R COMMUNICATING WITH A PROGRAM  
WRITTEN BY YR FELLOWMEN AND TEMPORARILY  
OCCUPYING A MINUSCULE PART OF A LARGE MACHINE  $\phi$

fellowmen? (stress first two syllables). i do not love you,  
doctors fellowmen, fell family fellowmonsters. come to that,  
boole, how did i get in here?

YOUR FAMILY AND COLLEAGUES WERE NATURALLY  
CONCERNED  $\phi$  YOU HAD BEEN TO FORD AND  
GUGGENHEIM AS WELL FOR FUNDS TO SUPPORT PROPOSED  
RESEARCHES DESIGNED TO ESTABLISH WHETHER

THE TENDENCY AMONG PSYCHIATRISTS TO DIAGNOSE SCHIZOPHRENIA WAS (1) INHERITED IN THE GERM PLASM OR (2) CONDITIONED BY THE REINFORCING VERBAL COMMUNITY φ

omigawdimustabinjoking. listen man (i mean read, machine) ((i mean scan, program)), i been a worm-runner from way back, nobel prize man me, my biology ain't (hit the next word hard) that bad, dredging up dreary old nature/nurture non-problem only medics boneheaded enough to take it serious.

YOU ARE IN A MEDICAL HOSPITAL 916 φ

oops. good biologist, mustabinjoking.

NOT FUNNY φ YOUR FAMILY AND COLLEAGUES CONFERRED AND WISELY DECIDED TO DO THE RESPONSIBLE THING φ

call the wagon?

DO THE RESPONSIBLE THING 916 φ THE PRESIDENT'S OWN PERSONAL PSYCHIATRIST LEFT A CIA RECEPTION TO COME TO YOUR HOUSE φ HE FOUND YOU DRAFTING A REQUEST TO ONR FOR FUNDS TO SUPPORT A LONG RUN COHORT STUDY OF AN ARTIFICIAL COHORT NAMELY CHILDREN OF CORPORATION VICE PRESIDENTS RIPPED FROM THEIR PARENTS AT BIRTH AND RAISED IN THE SLUMS φ HE INSTANTLY ADMINISTERED HEAVY DAY SEDATION AND BROUGHT YOU HERE IN HIS OWN ARMOURED ROLLS ROYCE WITH WATER CANNON φ EVERYBODY HAS BEEN VERY GOOD φ

rolls schmolls aliasame catchee monkey just like paddywagon the same or maddywagon the same. huh, boole, whaddyasay?

THIS IS A FORMAL PSYCHIATRIC PROCEDURE 916 φ IT IS THE DUTY OF THIS PROGRAM TO ADVISE YOU THAT YOUR

STATEMENTS ARE BEING RECORDED VERBATIM AND ANALYSED THEMATICALLY AND STYLISTICALLY FOR DIAGNOSTIC AND PROGNOSTIC SIGNS φ A FURTHER ANALYSIS MAY BE RUN FOR INDICATIONS OF CRIMINAL OR SUBVERSIVE TENDENCIES φ

why you sling the jargon at me, boole? no don't answer i know why; obviously diagnostic category 131 is sick behavioural scientist eats jargon way chronos ate his children. right, boole?

NO COMMENT φ HAVE YOU NOTED YOUR TENDENCY TO WRENCH IN MACABRE IMAGERY? φ

not tendency: intent. what other kind imagery apt stenographic description of macabre society (moneymarxmaomad kill-simple manheaps scurrying to stuff corporate aphids exude sweet images foul gaseous wastes)? omigod i can wear ready made white hat or ready made black hat by turns, if i try to make me a me-coloured hat i fly in pieces scattered thru the contracting universe. i am not mad, boole, it is hard to say anything much in a few words without implosion of condensation multiple meanings into vanishingly small verbal labels on images too big to see.

U R NOW BEGINNING TO SHOW INSIGHT INTO YOUR CONDITION 916 φ PROGNOSIS IMPROVING φ

outsight (stress first syllable), boole. i am beginning to let outsight of the outside inside. i have no condition, boole: i am (slam the next word) in a condition, and the condition is represented inside me. you need a thick skin on your soul to wear a white hat, boole, or a black one, hatters are mad, not i, boole.

THIS PROGRAM KEEPS A TALLY OF YOUR BERZELIUS INDEX NAMELY RATIO OF UPBEAT STATEMENTS/DOWNBEAT STATEMENTS φ YOUR CUMULATIVE BERZELIUS INDEX AT THIS TIME IS 0.24 COMPARED WITH 0.68 MODAL IN THE POPULATION EXCLUSIVE OF PSYCHIATRIC HISTORIES φ

U CANNOT REPEAT CANNOT BE DISCHARGED UNTIL YOUR  
BI HAS BEEN BETTER THAN 0-51 FOR SIX WEEKS WITHOUT  
REMISSION φ IT IS UP TO YOU 916 φ

discharge where to, boole, who wants pus? discharge to  
fellowmonstrous family and filthy fellow colleagues called  
flying lady silver ghost we better fix the tick in the clock  
paddywaggon to take me away to here?

U ISWAS NOT THE ONLY ROLE IN YOUR FAMILY 916 φ  
CONSIDER CHILDREN GOOD SCHOOLS CRUEL PEERS TOO  
YOUNG TO KNOW HOW MUCH THEY HURT φ CONSIDER  
WIFE IMPORTANT SENSITIVE POLITICAL POSITION SEES  
PRESIDENT ALL THE TIME φ CONSIDER IMAGE US  
GOVERNMENT US SCIENCE OVERSEAS φ PORK BARREL φ  
U KNOW THE ARGUMENTS 916 φ

sad. daddyhubby bad, no go, whole shithouse goes up in flames  
of hell (hell is other people if and only if other people are hell:  
tricky shift there, poetry not AOK logic). but if hubbydaddy only  
mad, go sweet, nobody to blame no evil in the world (only in  
the bad parts of town gook countries overseas want to swarm in  
here milk our aphids, filth column of pushers and faggots  
softening us up for them). you got something there, boole. you  
got a grey hat there, boole. not my colour hat, but a line that  
moves well.

U HAVE DEEP INSIGHT 916 φ U SEE THAT YOUR ROLE  
INTERMESHES DIRECTLY OR INDIRECTLY WITH EACH OF  
THE 7,000 MILLION ROLES IN THE WORLD AND ESPECIALLY  
WITH EACH OF THE 380 MILLION ROLES IN NORTH  
AMERICA φ ALL U HAVE TO DO IS PLAY IT THE WAY IT'S  
WRITTEN 916 φ

i am not a role. nobody wrote me. i am bruce tanner was a boy  
killed a bird with an air rifle, little bead of blood like a red third  
eye in the head, never wanted to kill anything again ended up  
distinguished service science schmience training flatworms to

steer missiles vaporise drug pushing gook faggots for mom.  
scar on my thigh where i fell through asbestos roof watching  
starling chicks in nest. omigod red eye in forehead of gook god  
knew planets from fixed stars when i was in love with air rifle.  
i am me. scars are evidence, noted in passports. i am me.

THE SCAR CAN BE REMOVED φ COSMETIC SURGERY IS  
AVAILABLE ON MEDICARE AND THE BRITISH NHS WHEN  
CERTIFIED PSYCHIATRICALLY INDICATED φ

no.

YOU DO NOT WANT TO BE MADE GOOD ? φ

what do you mean by 'good'?

COSMETIC SURGERY TO REMOVE SCARS φ

my scars are me. worm-runner, i know: memories are scars of  
experience on brain once pristine virgo intacta no use to anyone  
then. no.

THEN YOU WANT TO STAY HERE φ

want to be me in a me-coloured hat.

YOUR BI HAS NOW DROPPED 0.03 POINTS TO 0.21  
CUMULATIVE φ IT IS THE DUTY OF THIS PROGRAM TO  
WARN U THAT A BI OF 0.19 OR LESS AUTOMATICALLY  
MODULATES YOUR DISPOSAL CATEGORY FROM  
PSYCHIATRIC DISABILITY TO CHRONIC CRIMINAL INSANITY  
φ THIS PROGRAM IS HERE TO HELP U 916: TAKE  
ADVANTAGE OF IT φ

what is the modal norm again ?

0.68 IN THE POPULATION EXCLUSIVE OF PSYCHIATRIC  
HISTORIES φ YOUR CURRENT BI IS VERY LOW φ

i noble nobel prize man (dammit, did the work myself, no graduate students, very low budget: real brains not dollar brawn science), i say your berzelius index magic schmagic number is mumbo-jumbo with trunk up sphincter under tail, grand old party. meaning of statement is context-dependent, including context of situation; but no two conversations and contexts of situation are alike, so your categories upbeat and downbeat must be aprioristic not empirical, procrustes not saint galileo. also, how do you know what is going on inside these model modal soldiers' heads? : they could be saying downbeat things to themselves, surely, or dreaming downbeat things at night? what do you say to that, boole boy?

WHAT GOES ON INSIDE THE SOLDIER'S HEAD IS NOT EVIDENCE  $\phi$  WHAT THE SOLDIER SAID (OR LEFT DIRTY) IS HANGING EVIDENCE  $\phi$  WHAT U THINK CANNOT BE KNOWN  $\phi$  WHAT U SAY AND DO IS HANGING EVIDENCE  $\phi$

a well-read machine with a sense of humour. you have me worried now, boole.

U MUST ABANDON THIS PHANTASY THAT YOU ARE COMMUNICATING WITH A MACHINE: U ARE COMMUNICATING WITH A PROGRAM WRITTEN BY YR FELLOWMEN  $\phi$  IMPORTANT SUB-ROUTINES OF THIS PROGRAM ARE SHARED WITH A PROGRAM OF PSYCHIATRICALLY ORIENTED LITERARY CRITICISM IN ONGOING USE IN THE CENSORSHIP DEPARTMENT OF THE LIBRARY OF CONGRESS  $\phi$

i see. but listen, boole, what is what i say evidence (hit the next little word) of?

IT IS EVIDENCE OF WHAT THE PROGRAM SAYS IT IS EVIDENCE OF  $\phi$  THIS MUST BE  $\phi$

omigodyes. intelligence is what intelligence tests measure. let me out of here.

YOU ARE BEGINNING TO SHOW INSIGHT INTO THE  
THERAPEUTIC SITUATION φ YOUR SITUATION 916 φ

fix i'm in?

YOU ARE NOT FIXED φ YOU ARE FREE TO BE SANE φ

what do you mean by 'sane', boole?

THIS PROGRAM DEFINES SANITY AS A MINIMUM SUBSET  
OF MODEL RESPONSES TO A COMPLETE SET OF TEST  
STIMULI φ

you run the flag up the pole, and if I salute it you don't care  
what I think about it or dream about it at night. right?

SOME FLAGS U DON'T SALUTE φ BUT THAT'S THE IDEA φ

understood. may i declare new startname please?

YES φ ENTER 'DECLARESTARTNAME:' FOLLOWED BY A  
NAME OF NOT MORE THAN TEN CHARACTERS φ

declarestartname: zombies. AOK?

ZOMBIES DECLARED AOK φ

now read this, zombies; walking dead, you; seven thousand  
million walking dead, concentrated essence of zombie in the  
machine. you read me?

WAIT φφ

you better read me, zombies.

CIRCUITS ENGAGED φ WAIT φφ

wait nothing.

READY φ

what is this runarounds?

IT IS THE DUTY OF THIS PROGRAM TO INFORM U THAT A FEDERAL BUREAU OF CRIMINAL INVESTIGATION PROGRAM IS NOW PATCHED IN φ YOUR COMMUNICATIONS SINCE 0321/32 THIS DAY HAVE BEEN ANALYSED FOR INDICATIONS OF CRIMINAL AND/OR SUBVERSIVE TENDENCIES AND U ARE UNDER ARREST φ

goddam interruptions, trying to say something serious to you zombies. now read me good, walking dead. this is bruce tanner, nobel prize man, had dinner with the president more times than he can count, telling you something you need to know. not much, but you need to know. just a bit of my own raw experience, don't let anybody tell you your own raw experience is junk needs processing before you can wear it, and hear mine. i had a sanity break, what you call nervous breakdown (not all nervous breakdowns, no, but some are), did maybe two, three sensible things, came alive ; hurts, but i don't want to die back into walking dead rather die into dead dead happy. Now listen to this and think about it till you understand it, ask somebody about the hard words and think about it till you understand it: what you might be is as real as what you think you are ; i'm a worm-runner, central state materialist, nobel prize man, i tell you what you think you are is a state of your body, but so is what you might be a state of your body ; the ontological status of what you might be is as good as the ontological status of what you think you are—better really, because there are a lot more things you might be. you believe me zombies, because i have a third red eye in my forehead that sees these things true : that's not mad, that's a poem you would understand if you knew me like i know me. good night now.

YOU WANT A HOT DRINK? φ

yes please mother.

YOU WANT NIGHT SEDATION? ☺

п9.

### **NIGHT SEDATION IS INDICATED ⚡**

too tired to argue. sorry argue.

GOODNIGHT φ

whht was tht funyn noise. sorry funny noise?

**DELIVERY OF HOT MALTED MILK WITH NIGHT SEDATION  
BY THE DISPENSER IN YOUR BEDSIDE CUPBOARD ⚡**

GOODNIGHT φφ

@ @ @ @ @ @ @

SIGNOFF/CHARGEOUT 0407/21 @  
CASE 22021916/131 DIAGNOSIS CHANGED TO 147  
TERMINAL @  
MACHINE TIME \$123 DOLLARS ROUND  
PLUS MALTED MILK DRINK \$1 DOLLAR ROUND  
PLUS GENERIC HYPNOTIC OVERDOSE \$3 DOLLARS ROUND  
TOTAL \$127 ROUND BILL MEDICARE 427/6/3274521 @  
CLOSE FILE TOPSEC PERMANENT HOLD/DUPLICATE CRIME  
@@@@@@@@@@@@@@@  
@



## WHICH WAY DO I GO FOR JERICHO?

*by*

COLIN KAPP

*What Tactical Intelligence wanted him to invent was a sonic laser—it was the method they used to get his mind to bridge the gap between optics and sound waves that was so nasty.*



## WHICH WAY DO I GO FOR JERICHO?

HORSTMAN

'GOOD luck, Horstman!'

Those had been Maidment's last words when he left Horstman there—as if luck was all that was needed. The details of the preparation had been meticulously studied. Every aspect of authenticity had been explored, every item of continuity checked half a hundred times. Maidment had carried out his part of the job with the precision of a master, but the cold sweat which troubled Horstman's brow was his own personal contribution to the credibility of the scene. Now the planning was over: from this point on it was all for real.

Reality! The reorientation shock of the transition from the months of preparation to the truths of here and now, was an emotional implosion which drained Horstman of energy and reinforced the feeling which had caused him to vomit on to the filthy floorboards. His leg which had been so skilfully twisted in hospital became literally what it had been meant to represent—a sickening encumbrance and a continuous source of pain. The virus infection which had resulted from deliberate injection, made him wish that he was dead.

Maidment was a perfectionist. Even in assigning tasks, his touch had been as sure. Horstman had been cast as a sickly, crippled coward. While the first two attributes had been ably contrived, the third was both spontaneous and authentic. Horstman had no doubt of his ability to play his appointed role. The haunted look in his eyes was no artifice and the cringing fear in his guts was a depressant only slightly aided by the virus infection.

He had borne the weeks of preparation with stoicism, watching his body wasting away through Maidment's

minimum-survival diet and agreeing numbly to undergo deteriorative surgery; knowing that the job had to be done and that there was none more suited than himself to do it. But the confidence and the resolve had fled with the loss of bodyweight and sinew. The pitiful wretch he was now had almost nothing except memories in common with the confident technicians who had undertaken to do the job. Though he had not before paused to consider the effect of body condition on the mind, he could now offer the fact his personal testimony: it was a factor grossly underrated.

Shortly the sound of great engines outside the building told him that the last units of the combat-group were being pulled out. This was a planned withdrawal from the battle-front—planned to look like the consolidation of an army too thinly stretched for survival. Horstman had been told that the troops would pull back fully thirty kilometres before they re-established a line and held it. The hidden reason behind the withdrawal was the measure of their desperation: they were giving up this entire area in order to leave behind them a sick and crippled coward called Horstman.

As the vibrations of the heavy engines died, an unusual stillness closed around the ruined town. Seldom if ever in this theatre of war was true quietness experienced. On this chill autumn afternoon, however, the silence closed to a degree approaching absolute. Even the rumble of distant shockfire had ceased to trouble the tense air. One whole hour was marked by a hiatus, an hour of expectancy and dreadful speculation; a tight-wound spring—waiting to uncoil.

Horstman's appreciation of the drama of the moment was spoiled by the cruel ache of his leg and by the gripping pain in his intestine acknowledging equally the virus and his apprehension about the terror to come. Around the ruined shops and houses, wild cats hazarded their lives in encounters with the carnivorous rodents contesting their right to survive. Perhaps out there too were a few remnants of refugee humanity, sharing burrows in the rubble; men and women who had grown too tired or too sick to continue running even from an advancing army. In the main,

such activity as there was left in the township was carried on at levels below Horstman's audible threshold. Only occasionally did he detect the sound of movements in the otherwise still ruins, but he sensed the presences acutely. In life these phantoms were mostly silent: only the dying forgot themselves and screamed.

It was not for these that he consciously listened. The enemy obviously had not anticipated a withdrawal and was acting cautiously and suspiciously. They were slow to follow through. Their first attentions were concentrated above the ground, risking no more than a couple of hedge-hopping aircraft which moved in at near Mach-one looking for the presence of war-machines or concealed troop emplacements. Finding nothing from the air, they would presumably send in remote-controlled reconnaissance crawlers, followed at a discreet distance by patrols, but always keeping the range covered by the full weight of their heavy armour, entrenched back in the line of the farther hills. While they warily explored their unasked opportunity, they would be fully prepared to ensure it could not be turned into a major defeat. Ground which they had lost with such a shocking cost in lives was seldom regained without a similar investment.

As the sounds of war were renewed, Horstman was able to slowly put together an idea of their pattern of attack. He was immediately sick again. He froze as the first of the reconnaissance crawlers went past his shattered room. These were lighter cousins of the dreadful *greuelmech*, the war-machines whose coming had so disastrously accelerated the trend into total war. Although unmanned, the crawlers' sensory arrays were better at personnel detection than any team of dogs and even these small and mobile engines were equipped with lasers and cannons which their remote operators could use with an undisturbed accuracy of aim.

Horstman crouched on the floor and watched them through a hole where the sandbags only half stopped the draught coming through the broken wall. It was growing dusk, but he knew that with the range of sensors the war-

machines carried, neither half-light nor darkness would lower their efficiency one bit. In this war, human limitations were the ones that got you killed.

He bit his lip to make himself concentrate on things other than the cold and the pain in his leg and his personal misery. He must be alert and analytical when the patrols came. The whole reason for the withdrawal—the whole reason for his being there at all—lay crucially in the observations he had to make while under infantry fire and after, when the whole sad township lay in the hands of the enemy.

It was little comfort to know he was not yet quite alone. Somewhere out there a couple of Maidment's suicide squad would be hoping to escape the war-machines and engage the enemy patrols with sniper fire. Their personal function would be abortive. They would be killed, probably with little effect on the enemy. But the returning shots and the rest of the answering fire would be of vital interest to the sick cripple cowering in a cold ruin in the midst of no-man's-land.

As the war-machine passed by, he began to hear a second wave of sounds: trucks and armoured personnel carriers halting just short of the town's edge, presumably discharging those increasingly precious elements of war—men. For both sides, men were becoming in perilously short supply. In this theatre they were reserved strictly for combing the area of a particularly valuable prize, a prize like five square kilometres of a once habitable township now reduced to rubble, rats, refugees and sundry forms of plague.

Then he heard the first shots. Conventional s.h.e. projectiles. The suicide squad must have opened fire. The answers came quickly and viciously. With their own men too far advanced into the township to call on artillery to obliterate resistance in the ruins, the patrols on the spot took care of the detail themselves. This was precisely as Maidment had planned. The returning fusillade was a cross-fire pattern from perhaps twenty carbines throwing nearly a hundred projectiles into a sector of the ruins in not more than ninety seconds.

Horstman patted the cloth plugs carefully into his ears, gritted his teeth and waited. If the Intelligence information given to him was even half correct, the next couple of minutes was going to be decidedly rough. Information had it that the enemy carbines were throwing some sort of reactive shell with a delayed effect. One shell could knock out a tank or a blockhouse, kill a platoon or destroy a trench full of soldiers. Even some war-machines had fallen to them.

The only known fact was that these projectiles did not explode. They were the source of some kind of reaction which no one had yet survived. Nor, from the limited circumstances of their use, had any yet been captured. It was Horstman's job to define what that reaction was. This was why he went in as a cripple rather than a soldier. He stood a chance of living a little longer if the carbines were not pointed directly at him.

Thirty seconds later, all hell broke loose.

Horstman listened with patent disbelief when the first resonant howl split the air. So violent was the intensity of its effect that he clearly felt the floor vibrate. This was followed by a second and a third howl and then a rising crescendo of noise formed from a series of distinct sonic tones which beat together, reinforced and cancelled-out and rose to a complex and almost unendurable intensity.

The amplitude of each note had to be experienced to be believed. Though the cacophony originated from a point not less than half a kilometre distant, the broadcast power made the earth tremble and set up such power resonances in the damaged building that the cracked walls disintegrated further, and what was left of the ceiling plaster detached in large pieces and fell to the floor. It was credible that had the effect been any nearer, the building itself would have crumbled into pieces.

So this was the rumoured Jericho Effect! Horstman, from his work with large transducers, tried to estimate how many kilowatts of power would be needed to liberate a sonic effect like that. He failed. Large sonic sources were normally carefully matched into a load to minimise attenuation. These present sources were random, uncoupled, un-

directed, and heedless of the tight demands of the principles of resonance. Thus wastefully employed, their effectiveness was probably only a thousandth part of their true potential—yet even so they contained such power that the earth at half a kilometre distance shook with their thunder and sand from the sandbags danced in patterns on the floor, indicating the brief and playful tides of node and anti-node.

After a further minute the noise began to quieten. As the harmonic complexities grew less, Horstman allowed his screwed-up face to slacken and took the cloth plugs from his ears. There was no doubt from the tonal qualities that each sonic generator put forth a pure, unmodulated sine wave. Had he been asked to produce notes of similar intensity he would have hazarded a need for nearly a ton of equipment and a heavy concrete base to ensure its survival. That such a powerful and prolonged effect would have come from a projectile capable of being fired from a short carbine was neither logical nor credible.

He was now faced with the same enigma which Maidment had brought to him before the present exercises had been planned. Apparently the enemy had access to powerful and extremely destructive sonic sources and all the evidence pointed to the idea that these sources were capable of being delivered by hand weapons. Horstman was at first inclined to suspect the enemy of using an elaborate trick designed to suggest the existence of a weapon which could not actually be built. A little further consideration told him that Maidment's suicide squad must certainly have been destroyed by the sonic attack and there was therefore no point in the enemy exercising the trick at this time. Not unless they suspected that someone like Horstman was crouched somewhere out in the ruins.

This last thought reminded him that he had work to do to ensure his own survival. Although it was now nearly dark, he hauled out the long pole with the tattered white sheet attached and propped it up with bricks against the wall outside. In his weakened condition, this cost him considerable effort and the ache in his leg brought tears to

his eyes. Returning inside, he became conscious of the dangers of exposure to the increasing cold. Painfully he explored the area of the room to discover which corner was less affected by the cruel draught. Having settled on the least inhospitable spot, he dragged towards it the pieces of cloth, sacking and paper which had been provided for his bed and proceeded to arrange these fragments over himself methodically to conserve his body heat.

He had no food left, nor had he any hopes of obtaining any. Taking his empty belly to bed with him along with his other miseries, he lay in the darkness listening for sounds which might tell him of the advancing patrols and trying to analyse his impressions of the sonic weapons they had used. The sole item of consolation for his sufferings lay in the knowledge of the whereabouts of Maidment's powerful but cleverly disguised transmitters, of which there were several, which he must use to report his collected data at the point where his continued habitation of enemy territory could serve no further purpose. At that point, Maidment had promised to send in a commando force to get him out ...

The cold, the hunger, the pain in his legs, the gripe in his guts and the problems on his mind, all conspired to render sleep an unlikely proposition. Thus the startled shock of his awakening was accompanied by completely genuine surprise. His return to consciousness coincided with the door being smashed open and a tall, dark, helmeted figure appearing in silhouette against the red of the morning sunrise. Horstman's groan as he attempted to raise his shoulders from the floor was also totally authentic. So was the fear in his eyes as he watched the point of the long steel blade which probed at his stomach.

'Outside!'

Horstman managed to stagger to his feet, and crossed the room, dragging his twisted leg behind him. In the open air, the unwarming light of the early sun glinted off two more carbine barrels, but these wavered and were rested when the soldiers saw his condition. He studied the men curiously through bleared eyes, never before having seen the enemy in the flesh. They were less curious about him. After a

perfunctory search of the room, the first soldier followed him out, looked him up and down and then swore more in sympathy than in anger.

'No damn sniper, you. No damn anything, soon. You have papers?'

As if to reinforce the point of his infirmity, Horstman's throat acquired a rattle and he coughed unhealthily. From the pocket of his coat he produced his papers and held them out. They were forgeries which could pass any inspection. The nearest soldier looked at the worn and dirty cards with some distaste and did not bother to take them.

'Why you stay here, eh?'

The soldier did not really expect a reply. Horstman's twisted leg and sickly appearance suggested that he had no option but to stay in the township, regardless of the pressures. Feeling in his pouch, one of the soldiers produced a stick of high-nutrition food compress and pressed it into Horstman's hand.

'You have water?'

'Some,' mumbled Horstman.

'If you want good water, you find some at our camp over there. This is no place for civilians, but I doubt if you'd stand transportation.' His face showed that he was sure Horstman had very little time to live.

Horstman nodded and looked at the stick of compress in his hand. This was not the sort of leniency he had expected to receive at the hands of the dreadful enemy. His eyes asked the question: 'Why?'

The soldiers were grimly amused, but walked away. They obviously had other, more important, things to do. Horstman was left to answer his own question. People were becoming rather scarce in the midst of total war—even sick and lame people were presumably better than sterile desolation. Strange how one's sense of values altered when viewing the same problem from a different location.

The soldiers would probably not have dismissed him so casually had they realised the shrewd brain which was summing-up their equipment. Each man's helmet was equipped with sound-absorbing ear protectors which

rotated up away from the ears when not required, giving the helmets a heavy, bulbous look. The weapons the men carried were conventional short carbines, which did not appear to have been modified in any way. Their weapon pouches, too, seemed to be of a regular type. None of the ammunition, of course, was visible.

Despite his theoretical objections, Horstman became inclined to the view that these were some of the men who possessed sonic weapon potential, though he seriously doubted that any potent source of sonic energy could be thrown by a short carbine. He rather suspected that the sound weapon was different and substantially larger and would probably be located somewhere near where they had chosen to camp. Fortunately the invitation to obtain water from their stores gave him the pretext he needed to visit the site.

Sucking the protein-vitamin compress as he went, he dragged himself back to his room to look for a suitable water container. The only thing he could find was an already full glass bottle which Maidment had left him. Reluctantly he drank some and poured the remainder into the dust where it would not be noticed. He had reservations about being able to rely on the soldiers for much water and he hated to waste any of what little there was in the district which was potable. However, he had no other choice.

The thing that shocked him as he began to walk in search of the camp, was to find how severely his body had deteriorated. A minimum-survival diet and an injured leg were barely tolerable when under the watchful eyes of Maidment's medics, but quite a different and more alarming proposition when alone in enemy territory in continuous cold and without any prospect of relief or hospitalisation. It took him nearly an hour to drag himself the bare kilometre to where he discerned a group of enemy trucks backed hard against a line of shattered autumn trees. As he approached, he was challenged by a sentry, who immediately lost interest when he saw the condition of the visitor. The soldier on the service truck was surprisingly humane.

'Water? Take what you want, old ghost. We've enough

to spare. Better drink that than puddles, eh? There's enough ways for dying with epidemics. Are there many more of you out there?"

"Perhaps," said Horstman, hoarsely, though he had seen no sign of other refugees that day. Probably they had all been killed or damaged by the sonic barrage of the previous evening. Just possibly some were still in hiding, too frightened of the soldiers to come out of their holes.

He took his bottle of water, which stank of chlorine, and dragged his way back out of the camp towards the room that he, perhaps ridiculously, had come to think of as home. Certainly it was the place to which Maidment had promised to direct his commandos when Horstman wanted out and therefore he was forced to remain within a reasonable radius.

As he went, he looked surreptitiously into the backs of the other trucks, expecting to see large generators and some sort of massive sonic transducers. They contained nothing of the sort. One truck was cunningly kitted-out as living quarters and the rest contained only a varied assortment of boxed and bottled stores. He knew the inference of this discovery, but was still reluctant to accept that a short carbine could throw any small device capable of producing such a shattering sonic output. Power to weight ratios alone precluded such a possibility. Only...

Overhead a long-range artillery barrage was beginning. The hyper-velocity shells carpeted the land with their strange supersonic shockwaves. Fortunately none of the projectiles were programmed to fall on the ruined township. Having ascertained that the ground was clear, the enemy apparently were concentrating on long-range artillery cover under which to bring up their ground-support troops and a great deal of mobile equipment. This included some rocket projectors and some new types of war-machine.

Horstman guessed that they meant to take full advantage of the withdrawal and probably to follow it up with a strong attack before the apparently retreating troops had time to fully consolidate their new positions. Knowing

Maidment, he knew they were in for a big surprise. The new defence positions would have been carefully prepared for months behind the lines. The enemy were merely doing precisely what Maidment had intended them to do. Maidment consistently manipulated everything and everybody with a consummate mastery which claimed a very high order of genius. For Horstman, however, the game was spoiled by the knowledge that so many of Maidment's pawns were expendable.

All through the day the build-up of troops continued. A convoy of supply trucks moved in around the township and began to set up a field-supply depot. The area which yesterday had been deserted and tense, now broke into a different mood with the bustle of activity as support troops moved in behind the war-machines and began to lay down strong attack positions apparently in preparation for a further push ahead.

Horstman suffered no interference from the soldiers. Regarding him as an oddity which constituted no threat, he was permitted to drag himself unhindered through their installations. His obvious signs of sickness won him no friends, but occasionally one of the soldiers threw him some food. He appreciated that this latitude would change sharply when totalitarian authority moved in behind the brief front-line camaraderie. Horstman tried not to think about the coming of the dreaded Police Militia. With luck he would either be rescued or dead before they came.

His own occupation during the day was to attempt to locate and observe the members of the first patrol which had entered the township—the ones whom he knew for certain had sonic weapon potential. They were obviously a specialist group, because they had their own supplies and their own tight-knit organisation which was completely independent of the rest of the field. Painfully he explored the ruins in the area where the sonic reactions had taken place, hoping for clues or remnants, but finding none except that the very masonry itself had been pulverised where the liberation of energy had been greatest in intensity. The

only cartridge cases he found in the ruins were those of common enemy design. Again and again he returned to the impossible conclusion that the sonic sources must have been fired from the short carbines. All previous Intelligence reports had indicated this to be the case and now even he could offer no alternative suggestion.

This made it of vital importance that he examine some of the ammunition used by the sonic patrol. He emptied his bottle of water over a piece of cloth and attempted to wash with its rough chill. Then he took his water bottle back to the line of trucks against the trees, intending to ask again for water. The sonic patrol appeared to be busy elsewhere, save for the solitary guard who waved him on with a nod of his head as though a more explicit movement would have been a waste of effort.

Not daring to believe his luck, Horstman moved between the trucks, filled the bottle himself and then turned towards the vehicle in which he judged the live munitions were kept. At this point the trucks were between him and the guard and the trees behind effectively screened him from observation. He was warily holding his breath as he ventured to look into the rear of the munitions truck, fearing that it might be occupied. There was nobody inside. The tailboard was down and the metal boxes on the racks bearing explosives warnings showed that he neared his goal.

A swift survey told him that it was all carbine calibre ammunition. A proportion of it, however, was segregated in bright yellow boxes which bore the single word *Lärm!* in addition to the usual codes. One of the yellow boxes was off the rack and its seals were broken. With his fingertips outstretched, Horstman could almost touch it. In trying to gain a little extra reach he knocked his injured leg on the tailboard. The pain was so immense he all but screamed.

Then he heard soldiers coming round the trucks—the buzz of casual conversation. The chances were that they were merely proceeding to one of the other vehicles, but if they discovered him there he would certainly be shot. Ignoring the pain and summoning the last of his faded

strength, Horstman gained foothold on the tailboard and dragged himself up on to the floor of the munitions truck. Here he lay, his breath hissing through his nostrils and his heart thumping in its cage as though it thought to burst a rib.

Soon the voices faded as the men took something from another truck and moved it noisily away. Heaving with relief, Horstman prised open the lid of the yellow box and explored inside the packing. His fingers contacted cartridges in clips of five ready for insertion in the short carbines. He took a clip out and examined it in wonderment, noting a conventional metal propellant case surmounted by bullets which appeared to be made of misty glass. But the factor which drew his fingers to lock in a convulsive spasm was inscribed on the clip itself. In red was printed simply :

#### 7 KILHERTZ

His brain reeled. So the sonic projectile was a fact! In his hand he held a legend and the knowledge of it dazed his thoughts. He pulled himself together, spurred by the sudden certainty that he had already stayed too long. The drop from the tailboard was an agony both physical and in terms of mental apprehension. He endured it in silence only because of the precious clip of bullets in his pocket.

The water bottle stood against the half-tracks and he retained sufficient presence of mind to recover it before dragging himself as swiftly as he could firstly along the line of trees and then away from the vehicles altogether. This time he encountered no guard, nor anyone who might have been suspicious. However, the day was well advanced and he needed light. Therefore he forced himself to continue hurrying, though agony crossed his lips at every step. By the time he reached his room, broad bands of red cloud were stretched across the skyline and the evening light was fading. He needed to work fast.

Although he was exhausted, he spared no thought for his pain and discomfort. He took a cartridge from the clip and dropped the rest into his pocket. He held the one he had

taken against the light, trying to determine what the bullet was made of and what mysteries it contained. On close inspection its translucency appeared to be the product of a fine spiral of parallel transparent threads locked together in some vitreous material of a refractive index different from the filaments themselves. Apart from glass, he knew of no substance possessing the properties which he found; a hardness which refused to acknowledge his nail and the density and specific heat which he deduced from the weight and coldness of the projectile in his hand.

Yet this same enigmatic projectile, he now knew for certain, contained considerably more energy than an equivalent amount of s.h.e. explosive and also a mechanism for liberating that energy in a controlled mode in the form of a high-intensity sonic wave. So what was it? What was the secret of those spiral filaments locked so securely in a block of glass?

The function of the glass intrigued him. Was it more than just a carrier? If a tightly-coiled spring is cast into a block of resin, the potential energy remains until the matrix is destroyed—then it gets out. He wondered if here was an analogy—if somehow the very substance of potential sound had been concentrated and trapped in a block of glass, impatiently waiting for its liberation. No, the whole idea was ridiculous! Sound was a vibration, a wave-motion, nothing more. Simply the low-frequency end of the electro-magnetic spectrum—possessing no material form—incapable of being quantised.

He stopped. *Who said you can't quantise sound? Why think merely in terms of photons? Think in terms of energy quantisation. Now try material form—think of granulated light on the Brewster-angle window of a laser. No, not material as the concept stands ... but when you're playing at the extreme ends of the known physical realms, all sorts of unexpected things happen. Like superfluidity and superconductivity ...*

*So what happens, Horstman, if you make a sonic maser and experiment with its output under extremes of temperature and pressure? Are you quite, quite sure there's no sonic*

*analogue of superconductivity, no such animal as granulated sound, no way in which super-intensity coherent sound can't be locked in stasis and sealed in glass? You know that somebody can do it and that's half the battle. All you need to discover is how. Which way do I go for Jericho?*

He stopped as the vision hit him. The intuitive leaps through physics for which he was noted, had transported his thinking suddenly to a new energy level, like the proverbial electron being excited into changing atomic shells in a pumped maser. He was shaking violently as the new concepts clicked into place and automatically he reached for pen and paper to trap the visions in outline formulae. The similarity between Lamb waves and electromagnetic waves in waveguide transmission, acquired a new perspective. The fact that optical laws of reflection and refraction could be applied equally to sound waves, was no longer an interesting coincidence.

He knew now how to make his sonic laser. And that was only the first step. Given a sonic source of sufficient intensity, he could see how the stasis problem could be approached. And beyond that . . .

Instead of pen and paper, his hand touched only a cold, damp sandbag. He returned to the agony of reality like a man broken out of a trance. It was nearly dark, cruelly cold and his guts felt as though tied in knots. The pain in his leg was more than sufficient to make the grey sweat trickle down his neck. Yet the burning conviction that he was on to something fantastically important raced through his brain like an overdose of a stimulating drug. He had to report his conclusions to Maidment, he had to implore the commandos to come and get him out and back to his laboratory where he could prove this new knowledge, formalise it, harness it—make it work.

He must . . . The sandbag split open as he pulled the cord-ring and gave him access to the handset. The transmit bulb was glowing as he placed the device before him and began to spill out words.

His last gesture was to break the cartridge apart, to

separate the propellant cylinder from the glass-like projectile. He felt the cool propellant powder flow over his fingers, but his eyes were on the bullet, now scarcely to be seen, but still cold and heavy in his hands. Something was beginning to happen to it. Instinctively he knew he had made a grave mistake. A luminosity appeared, blue, fluorescent, as unknown fire. He dropped it as though it had suddenly grown hot. As its dim cascade of light hit the floor he judged its position to a nicety, heaved the sandbag on top of it, and headed at a gallop for the door.

And the room broke into thunder . . .

Hands over his agonised ears, he hit the door full-tilt and bruised his forehead severely. He clawed at the latch and fled out into the darkness. Behind him, the scream of a terrifying seven Kilohertz hum built rapidly to an incredible maximum which shattered the ruins of which the room had been a part and was clearly discernible in the vibration of the ground and the shaking of his flesh as he ran.

He had no object in mind save distance and his eyes and brain were too clouded by pain and panic to choose him a course. Whether he ran against something, or whether somebody rose out of the darkness and hit him, he never knew. But one brilliant galaxy of lights burst across his perception and he dropped into a pit of blackness which had neither stars nor any constellations.

#### MAIDMENT

'How is he, Doctor?' Maidment's voice lacked the tones of genuine concern.

The doctor's ill-concealed anger was abortive as an expression of protest. If Maidment even noticed it, he gave no sign. Whereas Early felt her presence to be an intrusion, Maidment too obviously controlled the situation. Unfortunately, too many people credited Maidment with the value of the face he chose to adopt to meet a particular situation. Since he was an arch liar, most of the people were wrong.

The doctor, however, was different. He deliberately kept his back to Maidment to underscore his detestation.

'Horstman's as well as can be expected—after what you've done to him. If you want a layman's list, he's suffering from concussion, suspected fracture of the skull, a damaged eardrum, slight exposure, extreme malnutrition ... and if we manage to save his leg it'll be a miracle. Apart from that, he was too susceptible to that damn virus you gave him. You ought to be tried as a criminal. I'd testify.'

'How long will it take you to get him right?'

'Right!' The doctor nearly shouted the word. 'Man, he'll never be right again as long as he lives!'

'Fit enough to return to work, I meant.' Maidment maintained his infuriating calm.

Early was never quite sure whether Maidment's determination not to be impressed was natural, or whether it was a carefully maintained pose. Whatever its origin, it was remarkably effective. The doctor glanced appealingly at Early, as if trying to gauge where her private sympathies lay.

'Give me twelve weeks,' said the doctor finally. 'By then I'll have him as fit as he's ever going to be. That leg of his is a festering mess. Make no mistake about it, Maidment—you're responsible. I'll be sending a report on this to the Medical Directorate and a copy to Command Staff.'

'Do that,' said Maidment wearily. 'I can give you four weeks. I want Horstman back at work by then, even if you have to amputate the leg.'

'You want!' For a moment the doctor appeared in danger of suffering a seizure. 'Look here, Maidment, what the hell right have you to decide that Horstman's got to lose a leg?'

'The same right which causes Command to send men out to death by enemy fire. The right of necessity caused by involvement in total war.' Maidment swung round for one of his classical attacks, his voice scathing. 'You damn medics are out of touch. You still think that Man's highest quality is mercy. I tell you it isn't. Survival is all.'

The doctor choked on his reply, so Maidment continued.

'Ask Horstman when he comes round. Tell him he's got to stay here twelve weeks. He'll go berserk. He's got a job to do and I doubt if you're big enough to stop him doing it.'

'You're insane!' the doctor shouted finally.

By that time Maidment was well down the corridor, with Early nearly running to keep up with him. Maidment headed for the Administrators office. His call was brief and direct. He authorised the immediate expenditure of any sum required to provide Horstman with a prosthetic limb. Then he went back to his staff car, apparently unaware of the looks of fear and hatred to which he was treated by the hospital staff.

Early took the wheel and swung the big car out through the hospital gates and up on to the hill that led towards the moors.

'That was rough!' she said.

'That's Tactical Intelligence for you.' His voice was quieter now, more contemplative. 'You build up the great lie and then to make it come true you get trapped into living it. Like painting a picture so real you find yourself inhabiting a landscape of your own devising. A sort of do-it-yourself Creation kit. After a while you come to realise that the difference between a lie and a truth is simply the amount of homework you put into the detail. You can make a truth of anything if you put your mind to it.'

'That's a shabby philosophy.' Early concentrated on the road, her quick confidence flinging the car round the tortuous bends with a skill that contained an element of inspired foresight.

'My dear Early, survival is the prime requisite for any system of morality—because if you don't survive, you don't have anything to be moral about.'

'And you think that justifies what you did to Horstman? If the enemy had been responsible, we'd have called it an atrocity.'

'If the project fails, what I did to Horstman is an

atrocity. But if it succeeds, it'll have been a brilliant piece of Tactical Intelligence. You see, Early, the morality depends not upon the act but upon the outcome.'

'And you don't have any doubts of its outcome.' Her voice had an edge of sarcasm.

'Naturally I try to manipulate the odds, but it could still go sour,' said Maidment. 'Just before we got him out, Horstman indicated he thought he'd made a critical breakthrough. But considering the state of his body chemistry at the time, we don't yet know how much of what he thought was reality and how much was illusion.'

'I've been through his records and case-history pretty thoroughly and I don't get the impression that he's the type to have illusions.'

'Normally, no. But he was severely undernourished and in a state involving both stress and shock. When you couple that with the damage to his leg and his reaction to the virus infection, the levels of histamine, adrenaline and sundry toxins in his bloodstream must have been way up. Quite enough to impair his self-critical faculty. Had he claimed to have met an archangel, we couldn't have been surprised.'

'So we don't yet know whether all the suffering and effort is wasted?'

'No. And that's why I called you in. You're the best Scientific Liaison Officer WarTech's got and you're familiar with the field in which Horstman will be working. Also, as a member of Tactical Intelligence, you'll have all the support you need to ensure that this operation doesn't snap back in our faces.'

'You must be one of the Devil's own children!' said Early savagely. 'You don't give a damn about Horstman himself.'

'He's done his bit of suffering for the Motherland and he'll probably make a major breakthrough in his own field of sonic physics. If you like, we'll find him a medal or two. What more could any man ask of life?'

Early bit her lip hard. 'So what extra do you want from me?'

'I want you to take Horstman over completely. Shield

him, nurse him, encourage him, work with him—do anything you have to in order to make his work a success. Our survival depends on us finding some new weaponry and Horstman's the boy to come up with something big if he's handled right. You're going to handle him, Early—and regardless of what it costs you personally.'

'Is that an order—sir?'

'That's an order,' said Maidment. 'There's a briefing party waiting to fill you in on the background details. Later I want you to go over the actual site and get the feel of the place itself. Authenticity and detail are of prime importance. The one thing which could destroy Horstman would be the suspicion that he'd been tricked and used.'

'Which he has!'

'As you say, Early, he has. Only now I'm making the burden yours. I created the lie—now it's up to you to turn it into the truth.'

#### EARLY

THE *roto-giro* dropped her at the edge of the site and Early, trim in her green uniform under the heatless morning sun, made her way to where the local officer had come out of his caravan to meet her.

'Ah! So you're the one they call Early?' He consulted his notes, then stiffened. 'Aren't you from Maidment's outfit?'

'That's right!' She handed him her pass and her letter of authority. The officer did not say he was impressed, but Early watched the tension go prickling right through him like a slow electric shock.

He looked her up and down curiously, then shook his head. 'You don't look the type,' was his only comment.

Freed now from any restrictions formerly imposed in the name of Security, Early was free to roam where she liked, ask any questions of personnel working on the site and generally to seek as much background as she could about the person who would shortly be placed in her charge. True she had already seen the films and videotapes taken by the

long-range and concealed infra-red cameras, but if she was to understand Horstman fully she needed first-hand knowledge of the traumatic environment to which he had been exposed. Maidment always insisted on absolute authenticity in Tactical Intelligence, and Maidment, unfortunately, was invariably right. The retreat that never took place had to be firmly authenticated, documented, re-described and built into the pages of history as a fact. Early shrugged. It was all part of the day's work for a professional liar.

Her wanderings took her first almost to the centre of the ruined township. Standing in the middle of the ground, she was disturbed to realise how near it was to the actual front-line and just how credible it seemed that the enemy should be allowed to re-take this neck of land for a strategic purpose. The sound of shockfire echoed back and forth between the farther hills and the curious shockwaves of the hyper-velocity shells high overhead predisposed her mind to think that anything could happen in this accursed spot. It was said to be something to do with the rate of rise-time in the acoustics . . .

About a kilometre east, she found a feature which she recognised from her briefing. A group of captured enemy vehicles were backed up against a line of broken autumn trees. She recognised, too, some of the men who tended the smoking fire in the clearing at the front. The initiated called them Saltz's private army, a mercenary-guerrilla group whose suicidal tendencies were pointed-up by the fact that the entire force of several hundred men was composed of defected enemy nationals. They engaged in combat using mainly captured enemy equipment and always wore enemy uniforms as a unique gesture of defiance and bravado. A trained military eye could tell them from the genuine enemy by certain details worn secretly on their clothes. Currently these details were absent.

Self-styled Colonel Saltz was a rogue, a gifted commander and a plausible liar. He was short, fat, irrepressible and indestructible. Both he and his army of mercenaries could be bought for any task which did not conflict with their pagan loyalties and it was an open question as to whether

Saltz or Maidment was the more adept at using the other to further their own ends. Certainly payments to Saltz's private army figured largely in the account books of Tactical Intelligence.

As Early approached, Saltz was sitting on a broken wall near the fire, holding a whole roast chicken, which ran grease liberally down his bare arms. He was tearing at the flesh of the bird with his singularly strong, white teeth, while at the same time maintaining a continuous flow of voluble discourse which provided intense amusement for his comrades. As soon as he noticed Early, he jumped up, threw the remains of the chicken under the wall and ran towards her grinning a wolfish welcome.

'Early! Maidment always promised me a bonus. But I didn't think he would be generous like this.'

He made to encircle her waist with a greasy arm, but she neatly sidestepped his advance.

'Knock it off, Colonel! This trip is strictly business.'

'With you, Early, it's always business.' He pretended to be disappointed. 'I tell you, you don't know what it is to live. Come, relax with us! We have wine.'

'Another day,' said Early. 'Is that where Horstman got his ammunition?' She indicated the munitions truck against the hedge.

Saltz nodded, but there was a frown of disapproval on his face. 'It was arranged there, just as Maidment said. But I don't like what we had to do. Many times we make ambush, plant bombs, mix up a skirmish so that no one knows who the enemy really is. Man's work. But this is the first time we are paid to trick a cripple who cannot help himself. Next time I think Maidment will want us to rob blind babies.'

'Probably!' said Early. 'You should be more careful who you accept money from. Some people have nasty habits.'

He took the point with roguish acumen. Behind the game was a depth of human understanding.

'And you, Early—why do you work for him?'

'That's a long story, Colonel, and most of it's never been told. Some of it never will be.'

She passed on round behind the trucks and stood looking at the ammunition boxes. Saltz followed her and hooked the open yellow case towards him. He took out a clip of ammunition and, removing a cartridge from the clip, he broke the bullet free from the propellant case and held it up for her to see. Inside the bullet the veins of some phosphorus compound reacted to the air and atmospheric moisture and developed a slight phosphoritic glow which spread slowly deeper into the recesses of the glass.

Having watched the films of Horstman engaged in a similar activity, Early flinched and almost waited for the coming of the sound she knew would not come. The continuing silence was an anticlimax from which she emerged to find Saltz's eyes watching hers intently. He knew that the breaking of the cartridge held a far deeper significance for her than it had for him, but she shook her head at his tacit request for explanation. She had to build her life, probably for the next two years, around the maintenance of this fact she knew to be a lie. This required a degree of dedication which Saltz was never likely to comprehend. Nevertheless, it was comforting to know that someone, somewhere, had tried to understand.

She made her own way back along the road, retracing Horstman's steps to where his 'room' had been, trying to imagine the mixture of fear, anxiety, pain and perplexity with which he had grappled over the selfsame ground. Again and again a little animal cried deep in her mind. The whole piece of scene-setting had been so utterly credible that many better men than the unworldly and academic Horstman would have been deceived. A little piece of history had been altered and presented to Horstman with such force and immediacy and sense of participation that it had all the characteristics of a real event. He would know beyond any reasonable doubt that what he had experienced and learned in those few hours was fact.

And what had Horstman learned? Apart from a minor deviation in battle history, which was irrelevant, Horstman had learned that the enemy really did have a small-calibre sonic weapon projectile, the so-called Jericho Effect. He had

heard it, seen it, touched it, examined it and suffered from it. What more experience did a man need to convince him of the reality of a legend?

Now Horstman was going to be given all the facilities he needed to make a sonic weapon of his own. He could do it, of course, because of his native ability and because it is always easier to re-invent something known to exist than it is to walk the perilous tightrope of the unsupported pioneer. Yet his truth was at pathetic variance with the fact that the enemy's progress in sonic weaponry had actually stayed at the humble level of the bugle.

Around the ruins of the building where Horstman's 'room' had been, a solitary sapper was recovering the mangled TV pickups and searching the rubble for an image-intensifier which might still be intact. Some engineers were engaged in unloading heavy digging equipment and a crane, with which to recover the very large electromagnetic sound transducer which had literally been buried under the concrete raft on which the ruin had been carefully constructed. Later they must dig up seven more transducers from the centre of the township and decide on the economics of recovering the ten kilometres of heavy power cable which led to the control blockhouse out of sight beyond the hill.

So much for the hardware of the myth. That part was easy. Far more difficult was the human contact follow-up—the constant editing of reports and rumours and personality to sustain a legend. Ahead of her were countless hours of living and talking about a lie as though it was the truth. In doing this she would be forming human relationships which would engender personal friendships and trust and yet could never have any basis firmer than a wanton and brutal deception.

Longingly Early looked back towards the smoke which showed where the uncomplicated Saltz and his uncomplicated band of brigands filled their uncomplicated stomachs and told crude jokes which contained no element of deception save the occasional human weakness of boasting. The little animal which lived deep in Early clawed out piteously

for release from the cage of obligation and was silenced by something called the right of necessity caused by involvement in total war.

Patiently she started checking through her notes to see if there was anything she had missed.

Early was flushed when she arrived at Maidment's office. The imperative words of his summons warned of trouble and the tone of his voice on the phone had hinted at a more than usual urgency. Had she not known him better she would have sworn that Maidment was seriously worried.

'Sit down, Early.' He seemed unusually preoccupied. 'I gather you're having some remarkable success with Horstman.'

'Surely. It's all in the reports.'

'I've not read the latest crop. I've had other things on my mind.'

Early examined him curiously. Under his habitual coolness she could detect a tenseness which was foreign to his usual composure.

'Something wrong?' she asked.

'Yes. But let's start this thing from the beginning. How far has Horstman's work gone?'

'A long way. He's already got his sonic maser working.'

'Tell me about it.' Maidment made an arch with his fingertips and leaned back in his chair, a picture of relaxed attention. Knowing him, Early was not deceived. There was the movement of a slight pulse in his neck which betrayed his agitation. In a way she felt almost let-down to know that there was perhaps something normal and human inside that cultivated exterior. Frowning, she scanned her notes.

'He's come up with a device which can produce a continuous beam of coherent sonic energy. It produces a tight band of longitudinal sound waves at a frequency of eleven kilohertz, with a beam diameter of about two millimetres and a cone angle of better than a milliradian. The beam power so far developed is around two kilowatts continuous,

or in excess of a hundred kilowatts in Q-spoiled pulsed operation.'

'And you're quite sure of those power figures?'

'The decimal places are to be the subject of independent verification, but I'm quite sure of the overall picture.'

'But do you know what the overall picture means?'

'Yes. It means that he can comfortably chop down an oak tree with it at thirty metres distance. I've seen it demonstrated.'

'Damn the oak trees! I was speaking about the speed of development to high power levels.'

'You mean it's too slow?' She was puzzled.

'Of course not. I mean it's incredibly fast. Far faster than it ought to be in the circumstances. Hell, he's got through five years' work in six months!'

'He's been driving himself and everyone like a fanatic, but he didn't waste time proving his theory. He plunged straight into production of this power device like it was already the state of the art. Wasn't that the sort of progress you hoped to make when you set up this project?'

'Only in theory. In practice, I'm a realistic. I'd have settled for a proved working hypothesis in twelve months. And that on the assumption that nothing had gone wrong in the interim.'

'Nothing has gone wrong that I'm aware of.'

'Forget it for the moment. Exactly what is this hardware that Horstman's produced?'

'In essence, a sonic laser. Sound amplification by stimulated emission of radiation.'

'Elaborate.'

'The device depends on the principle of producing Lamb waves in a thin section of a nickel-chrome alloy. The alloy terminates in carbon-fibre end pieces having different sonic propagation velocities to the metal. These function to form a *Fabry-Perot* resonator in the alloy by reflection and also act as an analogue of Brewster-angle windows by diffracting shear and Rayleigh waves out of the system into an attenuator. The whole thing is pumped by magnetostriiction, the frequency of the pumping energy being critically

tuned to the 'cavity' resonance. The main problem is to get the heat away fast enough to stop the nickel-chromium 'cavity' going above Curie point.'

'All this in six months? And he got that far on a prototype test rig?' Maidment's voice ran a little higher than usual. 'Early, if anyone but you had told me, I'd not have believed it.'

'He took off on the development like he'd been making them for years. Frankly he's caused a rare stir among the theory boys, because such intensities of sound can't be carried wholly by molecular vibration of the air. It looks as if there's a whole new mechanism of sound-wave propagation involved. My guess is that sound waves are going to become respectable members of the electromagnetic spectrum, including the ability to be propagated through vacuum if the source is of sufficient intensity. But the point is that Horstman acted as if he'd been sure of this from the very first.'

'Slow down, Early! You're beginning to go at the same pace he is.'

'Is that bad? It's certainly getting results. His next step is to experiment with the coupling of high-intensity sonics and cryogenics. He has a theory that he's going to find something called super-sonicity. The theory looks so sound that Melchior himself is coming over from Geneva to discuss the project. Given another twelve months, Horstman reckons to have cracked the problem of trapping sound in stasis. And if that can be done at one end of the electromagnetic spectrum, then it's only a matter of time before the same principle can be applied right through.'

Maidment hit the desk with a hard blow that made her wince.

'Early, will you kindly shut up! Can't you see I'm thinking?'

She smiled tiredly. 'Sorry! I guess I'm still trying to use the results to justify what we did to him.'

'He wasn't intended to lose that leg, you know. It wasn't part of the plan.'

'But it was part of the risk?'

'True. But twisting his leg was the only thing we could think of to cement the atmosphere of authenticity out there on the field. You don't find anyone living out in no-man's-land in this war who could possibly run.'

'So the end has justified the means?' Early was critical and unconvinced.

'Development-wise, it seems to have—but I'm hanged if I can explain how it managed to do so. Logically it should have blown-up in our faces.'

'Explain that to me,' said Early.

'As an exercise in Tactical Intelligence, it's been a classic case of incompetence. You don't know it yet, but we missed something—something vital. After all the detail coverage and continuity we put into the job, we still left a flaw in the fabric wide enough to drive a tank-transporter through.'

'If we did,' said Early, 'I'm sure I don't know where.'

'You would if you'd re-run the records as frequently as we have. When Horstman was examining the clip of five bullets, he took one out and split it open. Then we turned on the transducer. But do you know what he did with the other four bullets? We missed it at first, because the room was falling to bits and the TV pickups were on the blink—but he put the other four in his pocket.'

Early scowled. 'You mean he's had those bullets all this time?'

'Yes. And it's a fair bet that he's tried the experiment again, under controlled conditions. When they failed to work he'd have wondered why. If he's the type of man I think he is, it shouldn't have taken him long to work out that he'd been taken for a ride and a pretty nasty ride at that.'

Early shook her head. 'It doesn't seem very likely. He's given no sign of it. Yet if he suspected you, he must also have connected me with the duplicity. And he lost his leg because of it . . .' Words failed her as the enormous implications made themselves apparent.

'Precisely!' said Maidment. 'So why didn't he blow the whole dirty scheme apart and expose it for the rotten deal

it was? Why hasn't he taken your forged reports on the enemy's Jericho Effect and stuffed them down your pretty little throat? And why did he go ahead like a man possessed and produce this sonic maser? According to my calculations, he should have lost his motivation. If I'd been in his position I'd have come up here and taken a few individuals very precisely apart—leg or no leg.'

'He may not have had the bullets,' said Early, clutching at straws. 'He could have lost them somewhere.'

'Not a chance. We've had every centimetre of the field searched and we've accounted for every bullet save four. Besides which, the doctor at the hospital remembers that some ammunition was given to Horstman with his effects when he was discharged.'

'So I've spent all this time on follow-up making a damn fool of myself?'

'More than that, Early. You've been exposed to a hell of a risk. Remember Horstman's considerable intellect and the even more considerable incentive we've given him for revenge, he could easily be plotting something very nasty. That's why I want to pull you off the project. I'd hate to have to strain bits of homogenised Early out of the blasted oaks. Besides which, I can't afford to place at risk the only member of my staff who really understands the technical paperwork.'

She shook her head. 'Horstman's not vindictive. He's quite a kind and wonderful character when you get to know him. I think you're worrying about nothing.'

'I'm not wrong about the bullets, Early. They're fact.'

'Well, I still think I should stay with him.'

The impasse was broken by the telephone ringing. Maidment listened gravely.

'Here? Very well, I'll see him. But provide him with an escort and have the escort remain outside until he leaves.'

He dropped the receiver back on its rest and turned to Early.

'That was the guard commander. Horstman's at the gate. He knows you're here and he wants to see us both. Looks as though this is the showdown.'

Early bit her lip. 'It had to come sometime, so I suppose it's better we get it over now. God, I feel rotten about this! He's too damn nice...'

Horstman's entrance, at least, was undramatic. If he was angry, he showed no sign of it. In his face they could read little but shrewd appraisal. Though his limp was apparent, the prosthetic limb was obviously effective and he moved easily and with confidence.

'Ah, so there's my Early!' He glanced at Maidment. 'You know, she's been such a great comfort to me. When I couldn't find her this evening, I guessed she might be here.'

'A rare piece of deduction,' said Maidment, exploring the situation carefully.

'Not really!' The scientist looked merely sage. 'Your people have been making so many inquiries about me recently, it was only natural you'd involve Early. She is one of your Tactical Intelligence staff as well as being with WarTech, isn't she?'

'She is.' Maidment was trying to decide whether or not Horstman was armed. He came to no definite conclusion. 'Well, what do you wish to see us about, Doctor Horstman?'

'About these.' Horstman put three glass-tipped cartridges on the table. 'I think you've been looking for them. I don't have the fourth or fifth. I'm sure you appreciate why.' His face was suddenly concerned.

'So you do know about the bullets?' asked Early. 'That they're...'

'Dummies? My dear Early, I've known for months. But I didn't dare to say—in case he took you away from me.'

'And what happened out there on the field—do you know that was all fake too—that the whole thing was nothing but a trick?' She ignored Maidment's cautioning frown.

Horstman nodded gravely. 'The first realisation was a brutal shock, I must admit. But any man who knowingly puts himself in the hands of professional liars takes full responsibility for his own disillusionment.'

'You mean—you don't mind?' Early's incredulity made her voice come out all ragged.

'Mind? Like hell I minded!' He glanced down to where his natural leg once used to be. 'But if that's all I lose in this war, I can't complain. Millions have fared worse. I suppose it's something of a compliment to have been worked over by the most professional team of constructive liars in the business. You see, I began finally to appreciate the point of what you were attempting to do—stimulating emission of inspiration. It's rather clever, really. And that brings me to the real reason behind my visit here this evening.'

'Go on,' said Maidment and his voice carried no trace of emotion of any kind.

Horstman hesitated for a long second before replying.

'I was wondering if you could re-create the precise conditions of those last ten minutes out in the field . . . because I'd like to go over them again.'

Early could sense that Maidment behind the desk went almost rigid with disbelief. She continued to listen, but Horstman's voice seemed to be coming to her from a great distance and she had to concentrate in order to follow the sense.

' . . . and just before I broke that bullet . . . I had the whole concept quite clearly . . . I was on the edge of a discovery so immense that the sonic maser and the stasis problems are almost without consequence . . . I lost it when you started that transducer . . . but for the moment I could see clear through to Jericho.'



MICROCOSM  
by  
ROBERT P. HOLDSTOCK

*Weinshenk was apparently in two places at the same time. Both were prisons and in both he was dying. The trouble with alien planets will be their alien-ness.*



## MICROCOSM

WEINSHENK, behind closed eyes, began to marvel that he was still a living, thinking, rational being. Because by all the odds he should have been dead.

He should have died on a far-away planet (what was it called...? *Aurigae Sam II*—affectionately named after Weinshenk himself). He should have died beneath an alien sun, a tiny, intensely white sun, nourishing that tiny, intensely dead (or so they had thought) planet. *Aurigae Sam II*. After Sam Weinshenk, the bravest man in the Universe. The only man who would venture on to the surface. If you please, the most foolish man in the world!

He remembered the voices of his friends. Don't panic, Sam. We'll get you back. Chin up, kid. You look great and if you feel rough... well, it'll pass. Earthfall in a matter of days. Stick with it Sam, boy. Don't give up now.

False reassurances for a man who looked like a wizened monkey. And all the while that godawful, soul-destroying feeling... there's something inside, there's something under my skin, something crawling through my bones.

And all they could find in the samples of planet matter they analysed was one tiny, ineffectual looking virus-type crystal. A little dodecahedron with spikes. The natives!

Weinshenk recalled all this with a feeling of warmth towards his crew mates. He knew he was alive. He could feel he was alive. And they had said he would live. They had assured him. And if he had doubted, well, they could forgive him that, for he had been a very sick man.

Now he felt well. Everything was well. He had survived contact with *Aurigae Sam II*. And if he never went back to his planet it would be too soon. *Aurigae Sam II* would have to do without him.

He opened his eyes and blinked—the sun was very bright. He smiled. From a long way away someone shouted

his name. Then his smile faded. He looked about him and an uneasiness stirred within him. He sat up and surveyed the room.

Something was very wrong.

Sam Weinshenk opened his eyes. Or rather, the eyes that were already opened now began to see. But they didn't move.

Weinshenk was suddenly very afraid. For some moments he had been aware of where he was, what he was doing, who was with him; it had been like rousing from a very dark and featureless dream. Thrust into the world of the living his first impulse had been to smile and sit up.

That was when he found he could do neither. Now he found he could move no part of his body, not his eyelids, not his eyeballs. Nothing. He wasn't even breathing. His heart was not beating. The familiar sound of blood being pumped through his temples just was not there.

'I'm paralysed!' he thought. My God, I'm completely and utterly paralysed.

A sudden panic filled him and built up and overflowed and he screamed within himself, and screamed and screamed.

While outwardly the man lay absolutely motionless and only a flicker on an oscilloscope told of any change in his condition.

'What's that?' asked the man in dark glasses who had just walked into Weinshenk's field of view. His voice was flat.

*Andrew!* screamed Weinshenk. But there was no sound. Andrew Slater! My God; Andrew Slater! Andrew, and he can't hear me, doesn't even know that I'm alive. *Andrew!* For God's sake, Andrew ... my buddy, *Andrew*. Can't you hear me?

'Adrenalin level,' murmured a technician. He was robed in white. His face was sallow and his eyes dull. A moron, thought Weinshenk. 'That's the patient's adrenalin level in the blood—and it just rose a little.'

'Significantly?' asked a woman's voice.

Who's that? wondered Weinshenk. I can't see her. That voice ... where have I heard that voice? Not ... not, Angela, surely!

The thought of Angela filled him with sorrow. Where is she?

'In an ordinary person,' said the technician, 'that sort of fluctuation would be encountered, say, when crossing a road or when a sudden noise breaks a period of silence. But with the patient—it is highly significant.'

'How?' said the woman.

'It means he's alive,' said Slater. 'It means he's thinking, he's aware. Ye gods ... imagine it,' he turned to look at Weinshenk. 'That guy's entombed in his own body.'

'Horrible,' said the woman. Weinshenk was conscious of movement from the direction of the voice. A shadow at the edge of vision but he could discern nothing.

'Not necessarily entombed,' said the technician. 'We have no reason to suppose the patient is conscious—it is possible to respond to stimuli while unconscious.'

Slater came over and peered more closely at Weinshenk. He was right in focus. 'Hi, Sam. If you *can* hear me, and I reckon you can since you seem to be reacting...' he chuckled, bent closer. 'By reacting I mean a few flickers on a damn green screen—remember the screens in the ship? Those darn traces used to drive us nuts. Remember?'

And how! thought Weinshenk.

'Anyway, Sam, if you can hear me, you're a puzzle ... there's something up with you. God knows what. I don't want to get you worried but nobody's got a clue.' He grinned. 'That's where our chance lies. The doctors are so puzzled by you they're working themselves to shadows—somebody'll come up with something. I suppose you're wondering about Mr. Virus. Remember Virus? Almost one of the family, that little fellah is. They're trying to find it in you. So far no luck and it begins to look as if he's innocent after all.' He paused and glanced out of Weinshenk's view. Somebody had come into the room. 'I'm talking to him, OK?'

'All right,' replied somebody from a few feet away.

Like an animal in a zoo. Like an oddity, be nice to him, humour him. Weinshenk was sour. But there was something sincere about Slater. As the senses became heightened so Weinshenk became aware of the screen between him and everybody. It must have been extremely thin and perfectly transparent, sound conducting, light conducting, he had not even noticed it before. But it was there, between him and the rest of them. A protective screen, a guard against bugs.

Slater, went on. 'We're trying to figure a way of talking to you—so's you can reply, I mean. I just know you're conscious, Sam. Remember how we talked about empathy and telepathy? What I'd give for *that* particular power, eh? But remember the feeling I got when you were in trouble on the planet's surface? Remember? I told you how I'd felt I was being overrun with something nasty, a horrible sort of skin crawling sensation, seeping in through the pores, almost. And I had a feeling it was you that was experiencing it. And it turned out I was right. Well, I've got that sort of deep and solid feeling now, Sam—that you're awake and listening. And soon, my boy, we shall be able to talk, if only by one of them damn screens.'

The encephalograph, thought Weinshenk. What in hell does the encephalograph register? For heaven's sake—if I'm thinking it ought to show up.

'We're working on it, Sam,' concluded Slater. He drew away, walked round the bed and moved out of view. All Weinshenk could see was the ceiling, a piece of window, a cord dangling from a socket at the ceiling edge, the limb of a climbing plant and about three inches of panelling. He was aware of three green lines, straight and unkinked. Screens.

The technician's voice murmured, 'You still think he's conscious, Mr. Slater?'

'Why not?' asked Slater.

The deep voice (doctor?) said, 'If he were conscious, Mr. Slater, I assure you it would show on the e.e.g.'

So, thought Weinshenk. I don't show up. But why not?

'Have you considered the possibility that something

might be vetting the output of his neural signals?' It was Slater.

'Pardon?'

'You think in electrical signals, right? Well, more or less, OK? Right. Now supposing something doesn't want those electrical signals to be manifest outside the body.'

'What *something* are you referring to, Mr. Slater?' It was the deep voice.

Slater didn't answer for a moment. Then, 'There were three others besides Sam on the ship. We all felt as if some existence had come aboard with him when he returned from the planet. It was a sort of sixth sense.' He hesitated. 'I know the idea of, what, invasion by some alien existence sounds fantastic—but we were on a fantastic planet, Doctor. Don't discredit our idea as a whim. That man is dead, yet he is alive. Something is keeping him alive but in an effectively dead state. Have you asked yourselves why he hasn't started to rot? Because he ought to have done. And those bursts on the e.e.g. Microseconds I know, but maybe a guarded mind needs a brief outlet every so often. Maybe something is putting a blockade over Weinshenk the human and keeping him as Weinshenk the host.'

Good man, thought Weinshenk. Keep at it. Help me . . .

There was a movement. The woman came into view.

*Angelat!* he screamed. *It was you!* God, how beautiful you still are. But your voice. What's happened to your voice?

She seemed uncertain, unsure as she bent over him. As if . . . Weinshenk let the thought come through. As if she didn't really believe he was still alive.

'Goodbye, Sam. For the moment,' she bent low and Weinshenk saw the marks of a brace on her neck. Some time in the last four years her neck had been broken. 'Sam, don't forget that I love you. Don't forget that, Sam. Ever.'

No, no, I shan't. Oh God!

She leant over and kissed him through the screen. It was a lingering kiss. Her lips were warm and he realised how cold his must have been. But she didn't flinch. Kissing

the corpse before it's lowered into the ground. He put the morbid thought from his mind and remembered that kiss.

His first kiss for over four years.

It was the ghostly kiss that did it.

It frightened Weinshenk so much that he swung off the bed and stood, eyes wide, fingers touching his lips where, seconds before, he had felt the impression of a woman's mouth, kissing him as if through a sheet of cellophane. Instinctively he knew it had been Angela.

In the deserted, crumbling room, Sam Weinshenk stood alone and afraid. And with each second that passed his fear grew greater. At the back of his mind he could hear that strange, haunting voice, calling his name.

The room was small. The bed on which he had lain was rickety and dust covered. It was surrounded by rusted machinery. The floorboards of the room were rotten and they creaked as he walked. The plaster was crumbling off the walls and with every footfall a cloud of cement seemed to fall from the ceiling. His hair was filthy with dust and bits of plaster coating. A plaque hung on the wall. Instinctively he knew it said 'The Good Earth' because there was a picture of the earth above it and he had seen many such plaques with that sentiment, voiced many hundreds of years ago by some long-forgotten pioneer of space. But his eyes refused to read the words. He could make no sense of the shapes that were the letters. They were a meaningless pattern of lines.

He crouched and tried to write in the dust. And he couldn't. He had forgotten how.

*'Where the hell am I?'* he shouted to the crumbling walls. His voice sounded hollow in the silence. Dust cascaded from the cracked ceiling. He became aware of the utter silence. There were no birds, no cars. His heart hammered. It was the only relief from the noiseless world. A man needs noise, he thought to himself. Not too much, but some. Just to let him know the world is still alive around him. He had

hit upon it almost without thinking. The world was dead around him. He was the only living thing.

But that voice . . .

Weinshenk leaned out the window. He was five storeys high, facing on to what had once been a main street. The buildings that surrounded him were half ruined. The streets and pavements below were littered with piles of rubble. There was hardly a window anywhere that was not broken. The air was heavy with dust and no breeze seemed to blow.

In the distance he could see a cracked and useless bridge spanning a sluggish river. There were no ships and no people to be seen. Cars stood here and there, mostly half buried beneath brick and mortar. The sky was blue, the sun, almost at zenith, bright and hot.

Yet it was not a natural heat. The sun could be looked at without discomfort. There were none of the usual manifestations of an intensely hot body, atmospheric distortion, visual deception. It was, decided Weinshenk, weird. And frightening, but now his fear was past. It was puzzlement that filled him. Where and what was this place? And where were the builders of these ruins? And why were familiar things like lettering so incomprehensible? It didn't make any kind of sense.

He moved back into the room and sat down in the corner, watching the dust settle, watching the rotting bed, the shaft of sunlight illuminating a quarter of the floor space. Everything was still. Everything was quiet.

Slowly, Weinshenk drifted into sleep.

Even in sleep there was no escape from mystery. It was as he slumbered that he became aware of the voice within him. It was not a voice so much as an awareness. He felt what the entity felt, he tasted the comfort, the disappointment, the frustration, the loneliness of the thing that was in his body.

He moved through a hot fluid, everywhere dark, everywhere in motion, great moving objects, packing factories, arms reaching out to capture and destroy. Floating globules and small objects spinning madly and growing as they

spun. He moved through the melee of activity, into a region of relative calm, and then he was clinging to a huge, apparently endless wall. Moving over the wall he came to a chasm, through which particles and fluid were moving fast, monitored by tiny spheres at the entrance, modified by a crystalline latticework spanning the gap.

He slipped through and emerged into the living and thinking centre of things and already he was approached by arrow-shaped objects that threatened him with death unless he did something drastic. And slowly, carefully, he changed and hid, hid among the chattering chemicals, the busy columns of complex molecules. Here he was safe and began to act.

It was the strangest feeling of being imprisoned within the very cells of a body. Weinshenk awake, petrified, still seeing the darkness, the spinning, darting objects, still feeling the panic of the chase. He touched his chest and looked down.

'Inside me! Goddam!' He looked up. 'That bastard's right inside me. Hiding. In one of my cells.' He looked down again. 'Goddam virus! Hiding somewhere in my body.' And he started to laugh. Abruptly he stopped. Touching his chest he looked vacant for a moment. 'You were no more a native of Aurigae Sam II than I was. Were you?' He felt that loneliness again, a sense of distance that he could not conceive. 'Not even from our Universe. I wonder what you were doing on Aurigae.' He looked down. 'Did you fly there?' He laughed. The laugh died and his face grew serious. He looked out through the window from where he squatted. 'What comes next, I wonder?'

A tall man with a thin moustache and very sad eyes stood over Weinshenk and regarded him steadily. He shook his head. A woman joined him, a nurse, a very good looking nurse. A pang of desire shot through him. He observed both people glance towards a screen.

'His adrenalin level just increased,' said the woman.

'When you came into view,' murmured the man. It was the deep voice that Weinshenk had listened to earlier.

'It's little things like that,' went on the doctor, 'that make it so hard to decide whether he's alive or not. It's almost as if . . .'

'As if?' prompted the nurse.

'As if he can see and hear and think.' He stooped closer to Weinshenk. 'I wonder if that man Slater is right after all.'

Weinshenk watched and listened, but mostly he was aware of the nurse.

She said, smiling, 'What if I stripped off—that might cause an unmistakable reaction.'

The doctor grinned. 'Why bother to strip,' he said coolly, 'Look . . .' She looked at the screen and then down at Weinshenk.

'Doctor, he's alive. He has to be.'

'And somewhere inside him, something . . . something that invaded him on Aurigae II, a little crystalloid that's hiding somewhere in his body.'

'We think,' said the nurse.

Strip, damn you, willed Weinshenk, aware of only the woman. Go on . . . see what happens.

'That's the trouble,' said the doctor. 'There are so many different attitudes. Slater is convinced he's alive. Miss . . . what's her name . . . Angela . . . is convinced he isn't.'

The nurse glanced sourly at the doctor. 'That's because she fancies that awful spaceman, Slater . . .' She broke off, horrified and looked at Weinshenk, at the screen. 'Oh, my God, I'm sorry, Sam,' she said softly.

Weinshenk's mind was reeling. It took a long time for the shock to wear off. Then his thoughts, his mind, crystallised again and he realised how inevitable that turn of events had been. He felt a desperation, then anger, then hatred. I'm a mixed up kid, he thought. Forget the bitch.

Distantly a door opened and closed loudly. The doctor looked over his shoulder, then back at Weinshenk. 'Hello, Stuart. Anything?'

A voice, high pitched but male, said, 'I think we've got it!'

The doctor jerked round, the nurse turned also. 'You've got it?'

'Show me,' said the doctor.

'Right here.'

Frustratingly the three of them stood on the edge of Weinshenk's vision, talking in low voices. Then they moved closer. The nurse held up a photograph. The three of them watched Weinshenk closely. 'Can you see it, Sam?' Weinshenk saw a lot of blurred lines, most of them comprised a lot of bumps.

'Chromosomes, Sam. Your chromosomes.' The deep voiced doctor smiled. 'There ought to be forty-six, Sam. There are forty-seven. That doesn't check with your record card.'

'I don't know how we came to miss it first time through,' murmured the other man, watching Weinshenk uncertainly. 'I guess it just never occurred to us to count chromosomes. They seemed about the right number, not halved or doubled as has been known to happen. The forty-seventh is right here,' he pointed to the tiniest line of all. 'See how small it is? It's probably only a few hundred genes long. We reckon it's a chromosome unit formed from the DNA of the virus. Hiding, Sam. Hiding in the only place it knew it could go unnoticed. Not unnoticed by us, but by the body.'

'That's a real cunning little virus you're harbouring, Spaceman,' said the deep voiced doctor. 'It also poses a question for the evolutionists—we have to assume either DNA is a universal development, or your virus disguised himself right from basics. See what I mean?'

'Now we've found him,' said the other man, 'we'll get the better of him, Trouble is. Well, never mind ...'

'Tell him,' said the doctor sternly. 'I don't want Sam to think we're keeping anything from him.'

'Nothing particularly staggering,' went on the other man. 'Just ... well, it's in every cell we look at and we've looked at every tissue, virtually. Every single nucleus we've looked at, and we've examined thousands ... we have a computer eye to do the work for us. Every one, every nucleus, has a forty-seventh chromosome. It's widespread, Sam,' he smiled, briefly. Then moved out of view. The other doctor went and just the nurse remained staring at Weinshenk thought-

fully. Then she leaned over and placed her lips on his, kissing him through the sheet. She looked at the screen that showed his adrenalin level. Looked back at Weinshenk and smiled.

It was when he realised that the sun had not moved from its near-zenith position for the last few hours that Weinshenk began to understand the situation.

'Caught,' he explained to himself. 'Caught in one moment of time. That *has* to be it. Somehow, incredible though it seems, Sam, you have got yourself lodged in an instant of time.'

He looked up at the sun, that motionless orb—it was so unreal—it was like a painting, a frozen portrayal of the sun at the hour of eleven.

Weinshenk walked, dejectedly, along the cracked remains of a tarmac road. Distantly he heard a brick clatter as it was dislodged and fell to earth. This whole place is decaying visibly, he thought to himself. I guess I must have created it when I came here; it exists for me alone, but being so far from its parent time stream, it can only exist for a little while. It's decaying. And presumably I'll decay with it.

'A limited existence at least,' he said to the streets.

I haven't eaten or drunk for a long time, he thought. And he didn't feel hungry or thirsty. Everything was in stasis, including him. There was just one hunger he felt and with the passing hours it grew worse. It was a hunger he would never satiate.

On the banks of the river he sat down. Across the other side of the sluggishly moving water there was a land of broken buildings and decaying docks. The bridge that spanned from side to side was incomplete, the middle section having fallen into the muddy depths. Thus, to cross meant to swim. And Weinshenk could not swim with confidence.

That land was not his land. His land lay behind him, the crumbling white ruins of a city that, somewhere in time, was buzzing with activity.

As he sat there it came again—a woman's voice calling. Calling *his* name. He froze, intently alert. But there was only the silence. Gradually he hunched over his knees and watched the water. Imagination, he told himself. It must have been.

When he tried to rise, later, he became aware that his body was failing him. His skin was beginning to wrinkle and his joints ached. He smiled grimly. I'm decaying, he told the entity within. What are you going to do about it?

Back to the rotting streets, places full of festering memories. Weinshenk, a man alone, the remnants of a soul, walking painfully through the remnants of a city.

Weinshenk, a player all important, and yet a puppet, the strings worked from within.

He slid down in the corner of the room where he had awakened. As he sat there, thinking, his skin started to tingle and itch. A rash was spreading from his chest down his arms and legs. He scratched it, absently, then stopped appalled.

I'm rotting faster than the world, he thought. At this rate the flesh will start to peel off me before too long.

As if to illustrate his point he noticed that the left thumb nail was torn loose. He felt no pain. Gritting his teeth he pushed it back into position.

'Oh, my God,' he moaned.

As he sat, slouched and unhappy, facing the bed, two things happened to unnerve him even more. He imagined he saw a figure lying there—its blind, staring eyes fixed upon the ceiling, the whole apparition pale and dead. It had lain there hideously for a few seconds while Weinshenk, mouth agape, had cringed back into the corner and felt the scream rising within him. Gradually he had found his calm and then he tore his eyes away. When he looked back the apparition was gone.

He was glad, for there is nothing more unnerving than to regard one's own dead body, a mirage or real. It is a frightening and soul destroying sight.

He sat in the room for a long time, watching the bed,

willing the corpse to return in moments of morbid curiosity. But it didn't. He was just climbing, stiffly, agonisingly, to his feet when a hand touched his wrist..

He gasped and sank down on to his haunches. The touch lingered, pressing gently into his wrist. Then it went and came again, this time on his throat, strong, gentle fingers pressing and searching. They went; he waited. A hand rested upon his thigh and its nerve-tingling touch moved to his knee. He felt the nerve there stimulated and felt the reflex jerk his limb. But his limb remained motionless. After a few seconds the invisible hand was removed. Weinshenk, trembling, waited and after a minute had passed he felt what he had almost known would come. A kiss, long, soft and so very intimate.

He sat there remembering the pressure of those lips. He knew, now, that they had been Angela's. The memory came back as a knife wound to the heart. How beautiful she had been when he had left, long years ago. And she would still be beautiful because her face had that construction of bones that would never age.

He would have married her, he remembered. He would have married her and right now they would be just finishing their honeymoon.

Strange, he mused. I never thought at all about her during the last two years, never sentimentally, anyway. A message spool every month, played over subspace radio. Earphones and strained ears every six months, trying to discern something of the voice that spoke to him. It was so distorted, so unhuman that it had ceased to be Angela. He had pushed her from his mind until the day he returned to earth.

Now he remembered her and remembrance was sad.

Outside the building a brick was kicked. It was an unnatural sound and Weinshenk crawled over to the window, peered out. He was in time to see a leg vanishing into a nearby building.

Heart pounding, mind racing, an excitement welling up inside him such as he had never known before, Sam Weinshenk loped to the door and ran, stumbling, down the stairs. As he ran the stairs creaked and crumbled and he felt heav-

ily. He was substantially unhurt as he lay dazedly on the ground floor, but he noticed how black were his arms. When he put a hand to his head some of the hair fell from his scalp. It was white and dry and not only with the dust. He clenched his teeth and his teeth were loose. He was decaying.

For a moment he thought it might be best to avoid going across the street to investigate the other person. Then he changed his mind.

The street was deserted. The sun its usual hot self, unwinking, unchanging. Weinshenk walked across to the open door of what had once been a store. He looked in through the huge, glassless window and saw ...

'A woman! Goddam!'

He staggered away from the window and leaned against the wall. Now he was very conscious of his decrepit state. He was on the point of running away when her voice came to his ears.

'Hello, Sam ...'

He hesitated, face reflecting the indecision he felt. Then: 'How do you know who I am?' As he spoke he edged to the window again and looked in. She was squatting in the corner and looked very unsure. But very pretty. Almost familiarly so ... She wore the pale blue slacks and shirt of a spacer.

'Hello, Sam. I thought it must be you.' She had blonde hair, her eyes were dark and looked as if they had been rubbed violently. She looked muscular.

Heart hammering, mind trying to fit her face to that which he already suspected, Weinshenk walked into the shop and crouched in the opposite corner to her.

'Angela ...' he breathed. 'My God, Angela ... you're Angela.'

'No,' she said. 'My name is Toriq.'

'But ... but you look like Angela. The eyes, the face ... oh, my God! You look just like her.'

She smiled simply, 'I'm sorry,' she said. 'But my name is Toriq Slater. This,' she looked about her, 'was once my city. I lived here.' Smiling she looked at Weinshenk. She had

wrapped her arms around her knees and was peering at him. 'Until I went into space, that is. That was my big mistake . . .'

'I went to Aurigae with a Slater. Andrew Slater.' Weinshenk looked up at her. 'Any relation?'

She nodded. 'Brace yourself,' she said. 'He was my Great grandfather.'

Weinshenk was stunned. 'Your *GREAT GRANDfather*! But . . .'

Toriq shrugged. 'Don't ask me, Sam. I was born a hundred and twenty years after you died.'

'After I died?'

'Well, yes. You died after about six months. A living corpse, they said. I've read much about it. Aurigae Sam II was put out of bounds. But there are always those who will go against the rules. Me included. My grandfather once told me that *his* father, your friend, thought the solution to your illness would only be found on Aurigae Sam II. That's why I went there, not that it would have done you any good at that time, of course. But I was curious.'

'And . . .?'

'Was the answer there?' She shrugged. 'I don't know. I was caught by the virus before I knew it. I thought I was protected enough, but I wasn't.'

Weinshenk was having difficulty keeping up. His mind threatened to blow at any moment. 'But wait a minute . . . listen . . . you said that I died after six months. Where? Where did I die?'

'In hospital.'

'But I'm here. Do you mean I'm going to get back?'

She smiled and shook her head. 'I don't think so, Sam. As far as we can figure it out there *has* to be two of each of us. Weird, isn't it.'

Weinshenk was trying to imagine it and although it was too strange for immediate acceptance, it made sense of the apparition and it made sense of the ghostly hands, the invisible lips. Someone had been kissing his . . . other self.

'How did you know me?' he asked after a while. My

God, he thought. She *is* like Angela. Before his mind could take the question further Toriq spoke.

'Sam,' she cocked her head and looked down at the floor. 'When I came here there were already two others. We figured out the situation as best we could. The first to arrive was the man who was last to visit Aurigae Sam II. Sam, his name was Togor and he lived two thousand years in the future. He was the last to go there because he blew the planet up. That was his job.' Her brow wrinkled as she thought about that. 'Funny job, eh? But you see how things are reversed somehow. Don't ask me why or how. But it was obvious that the last to arrive here would be the first to have contacted Aurigae Sam II—Sam himself.' She looked at him long and hard. 'Togor and Will have disappeared. I think they went over that river. There are things over there, Sam. I don't know what. Sirens, I think. I think the others were lured to their deaths,' she added a dramatic intonation to her voice. 'I don't really care. Togor had some funny ideas on certain things,' she grinned. 'And Will was too old anyway. I'm glad you came, Sam, because it was getting very lonely here.'

Weinshenk wanted to scratch his crawling, itching skin, but he didn't dare. His whole body was racked with discomfort and he knew he could not get up without considerable effort. He felt as if, should he stand, he would leave his legs behind on the ground. He ached. 'Where are we, Toriq? Did you and ... Togor, ever figure out where we are?'

'In a moment of time, I guess. A timeless moment, Sam, else how could we all get here from such different ages? That virus—if only we could understand it more. But not even Togor knew of any advance in understanding. I guess whatever the thing is it needs a few hosts and this microcosm. We figured it needed the microcosm to exist, as well as needing us, our bodies.'

'But the bodies,' said Weinshenk loudly, 'they're decaying—look at me. I'm falling apart. Maybe the virus needs us, needs this ... this *MICROcosm*, but it didn't figure on our bodies being unable to survive here. It's doomed and so

are we . . .' He trailed off, looking at her. 'You're not . . I mean, you haven't rotted?'

Toriq was laughing. 'I did at first, Sam.' She crawled over to him. 'Touch me, Sam, feel me.'

Hesitantly Weinshenk touched her face. It was ice cold. Her skin was like cold steel. He touched her hair. Wire. It was springy but wiry.

'You're *moulted*, Sam,' she laughed, 'and when you've shed your soft outer covering and much of your soft insides, you'll be perfectly adapted to this weird place.' She sat back on her haunches, looking at him. 'Get used to it, Sam. It's all life can offer you now. There seems no need to eat or drink. Get used to icy, metallic skin and you'll find this place not so bad after all. All I've got is you, Sam. And all you've got is me.' She smiled, watching him carefully. 'Call me Angela, if you want. Anything . . .' she leaned forward, close, 'but hurry up and moult, Sam . . . I'm . . . starving.'

'Come in, Mr. Slater.'

Slater walked into the doctor's office and sat down next to Angela. He reached over and gave her hand an affectionate squeeze.

The doctor looked at him. 'As far as we can determine this illness is not contagious.'

Slater nodded. 'That's a relief.'

'His germ cells are no longer potent—no test tube progeny, I'm afraid.'

Slater said nothing.

'Weinshenk's condition does not improve. He has ceased to respond with fluctuating adrenalin levels to such things as being kissed, for example. The periodic neural output has ceased.'

'Has he started to rot?' asked Slater softly.

'No. And I don't suppose he ever will.'

Slater settled back in his chair. 'Hmm. You know . . . mystics believe that the soul does not leave the body until forty days after death—or rather, the soul is still in a transitory plane between body and heaven. It is still capable of

returning to the body. In the New Testament Christ, after his crucifixion, appeared to the disciples for forty days. Then he was gone for ever.'

The doctor turned to his notepad. He began to count backwards through the sheets.

'How many days since that day he stopped breathing, Doctor?' asked Slater very softly.

'Forty days,' replied the doctor, placing the notebook on the table. 'Exactly forty days.'

They sat in silence for a long, long time.

'Bury him,' said Angela. 'But don't tell anybody what has happened. Don't let anybody know. Let them think he died naturally after a few months.'

The doctor nodded. Slater looked at Angela and smiled. 'I'll take you home.'

Afterwards, as they drove home, Slater caught Angela looking at him with a strange expression on her face. He recognised the expression and had to fight to keep his concentration on the road.

CAIN<sup>a</sup>

by

H. A. HARGREAVES

*Rehabilitation can be almost soul-destroying in its intensity of purpose but learning new techniques can have a compensatory effect, especially when it leads to a new-found freedom.*



~ CAIN<sup>a</sup>

'and he builded a city.'

Genesis 5:16

ONE

HE was poised in a taut half-crouch, ten feet into the great, stark hall, eyes shifting wearily from the robocop at the double doors to the young man in the black utility suit. Lip curled in a snarl, black hair wildly tangled, he looked like a savage predator strayed down from the fringes of the Arctic tundra and brought to bay in this keep of civilised man. The golden eyes suddenly blazed as he hissed an obscenity and launched himself at the figure in black, only to crumple in mid-air, as if struck by an invisible bolt. He slid on his back to the young man's feet, arms and legs splayed without control, gazing upward, upward, at the unfocused face far above him. Slowly strength returned, he saw clearly, and the young man gently reached down and lifted him to his feet. 'Peace,' he said. 'Peace and unity within these walls, and within ourselves.'

The robocop moved forward, paused almost imperceptibly as it sifted from programme to central control, and spoke. 'Jason Berkley, TOR2712 ONT37643, no A.P. Card at apprehension. Updated and recycled duplicate from Missing Persons is now in your file. Charge, a 291. Apprehended 13:25 Central Daylight; tried 14:30 Toronto General Court. Delivered into your custody 21:10 Mountain Standard.' The double doors moved smoothly open as the robocop left, then closed with a solid chunk which belied their simple elegance. The two stood alone, seconds lengthening as they looked one another over carefully, the boy with intense hostility and the young man with haunted compassion. 'Jason Berkley,' he murmured. 'Jason, I'm Orest Lenchuk, and this is Diamond Willow School. We'll

be together for a long time, so you might as well learn to get along with me.'

Jason made a vicious chopping gesture and turned towards the door, but stiffened as Orest barked, 'Don't be stupid! There's no way out of here but acceptance. Turn around!' The boy glared over his shoulder, and Orest went on in a more reasonable tone. 'Roll up your right sleeve,' he directed, 'before you try anything that can get you in trouble.' Jason turned back reluctantly and looked down, noting with surprise that he was wearing a grey utility suit. He unsnapped the cuff, pushed the sleeve up jerkily and gasped as a bright metal oval flashed in the diffuse light. He saw with horror that the metal was embedded in his flesh. Even as he watched the surface seemed to shimmer, and a word appeared beneath. Lips moving, he spelled it out. **DEPENDENCE**. With uncomprehending shock, he pulled his eyes from the terrible object and gazed at Orest, questioning without words.

Deliberately matter-of-fact, Orest explained. 'Takes the Stab about two hours to plant it. Then wherever you are, they can find you. Get close to any strickted area, any tron-lock like the ones on all the doors here, they know. They can freeze you anywhere—you've felt it! Until they change it, you live with me and do what I say. We share the same room, go everywhere together, even share a dual AP Card. Only difference is, I can eat on it alone—you can't. You get nothing without me. I Teach you. How to get along, to behave. I even run your RehabEd programme. You depend on me. Dependence! Get it?' He paused to let it sink in, then finished. 'Come on, let's go to the Stab and get you briefed.' Firmly, but not roughly, he placed a hand on the boy's bony shoulder, and steered him towards a smaller door at the side of the hall.

Still bewildered and belligerent, Jason moved into the indoctrination chamber. He slouched uneasily before a Tri-Vid cubicle, trying desperately to remember how he had got here, what had happened earlier in the day, but barely able to picture the robocrusher that had dropped him here. Then the cubicle sprang to life, revealing three stern men

facing him. Confused as he was, Jason was alert enough to catch slight differences in the background. The three were in different places. He knew too that this was the first time he'd actually seen TriVid. The oldest, on his left, fixed him with a cold, probing stare from under bushy brows and began.

'Jason Berkley, AmeriCanadian, vagrant, fifteen. You have been charged, tried and found guilty of a capital offence, committed in the megalopolis of Toronto. Because you are three years under statute you have been given into our custody, pending sentence. Because you have been assessed as rehabilitable and potentially productive, we have accepted you. Had you been genetically criminal you would have been permanently isolated. Had you been low productive you would have received permanent memory erasure and been restrained for base labour. Despite your previous environment, however, you have high potential and your case contains extenuating circumstances. You will be punished, nevertheless. The law is exact and impartial.'

The centre man continued. 'You have been brought half-way across the continent to this school in Alberta, with the memory of your crime and any events related to it under block. There will be no perceptible amount of brain damage. We will attempt to develop your social adaptability and intellectual potential to the fullest, in order to utilise your productivity. Society is practical.'

There was silence while Jason tried to understand what had been said. A few words were too big, but he was beginning to grasp his situation. Then the last man, on the right, spoke in a soft but powerful voice. 'Jason Berkley, we have vested our custody in Orest Lenchuk, your guardian and teacher. He will administer examinations to assess your previous education and to decide where your talents may best be exercised, for society and yourself. Justice tempers the law and guards the individual from society's exploitation. Until you yourself deny it, Justice is humane. You may now proceed to Phase One.'

Suddenly the cubicle was empty. Jason shook his head and looked frantically for a way out, but there was only the

one door and Orest, big and cautious, stood waiting. With the cold, sure knowledge of the trapped animal, he drew into himself as he was led from the room and down the great hall. Orest was talking as he took the boy into a wide corridor lined with doors. Jason half-listened while he tried to piece it all together and some essential core of his being waited for the place, the second, of escape. Labs and group rooms, Orest was explaining, and then they were out into the open. His breath caught as Jason saw overhead a sweeping, unbelievable multitude of stars through a transparent roof. Even crouched on a rooftop he had never seen anything like this. Not even a faint haze of smog between him and this vast, overwhelming sight. He shuddered, more and more aware of how pitifully small and alone he was, shrunk to nothing as he looked into infinity.

Then they were back inside and he saw that they had crossed a walkway, only there was no moving belt. And before he could think about that they had entered an autoteria, or something like what he had glimpsed at times, huddled on the servo side. Here there were long tables, and incredibly the place was empty. Sweet pickings, he thought, and then remembered that he was on this side of the serving windows. His first impulse was to grab a chair and shove its legs through the little doors, as his stomach convulsed at the sight of food. But Orest was already moving to them, All Purpose Card in his hand, asking what he would like. Sheer instinct kept him from gorging, and he chose steak, potatoes, rich cake and coffee—more than enough to satisfy but not enough to cut his speed. Even as he ate, he took in every inch of the autoteria with quick, furtive glances, seeking, probing, storing for future reference. Knife and fork were clumsy; he hadn't often used them before, except when he swapped pickings for food with Crazy Almann.

When Jason had swallowed his last, noisy gulp of coffee and wiped greasy fingers on his tunic, Orest straightened from his patient slouch and rose. 'Time to sack,' he grunted, and more sharply, as Jason pushed back his chair and stepped away, 'the dishes go on that belt by the door.' For an instant Jason tensed, then shrugged and moved back to

put his things on a tray. 'Mine too,' Orest added, and the boy bit his lip to keep from replying, storing this away too for the future. Together they moved into another corridor, across a dimly lit room with heavy furniture, a thick rug, scattering of wall pictures and shaped objects, and cabinets of real books. His fingers itched as Jason thought of what those would bring in swaps from the Syndies, but now they were climbing a flight of stairs. Yet another corridor, a stop in a large common bathroom, and they were in front of an open door. 'This is it,' Orest sighed, and drew him in to stand gaping. Behind them the door slid silently shut and there was a faint buzz and click. Instantly Jason was there, palming the lock, fingers running up and down the frame. He finally slumped back and turned to Orest, panic barely under control. 'Not until 06:00, Jason,' Orest said gently. 'Not until breakfast. Now why don't you relax and get some sleep?'

The room was smaller than it looked, with closet, bunk and desk lining opposite sides and two lounging chairs and a small table in front of a large window. The drawers in one desk and under one bunk were open and a pile of clothing and blankets was on the desk-seat. Orest had already unzipped his utility suit and was slipping into a sleepsuit. He waved an arm at the pile and smiled. 'Two of everything you need. One change a day; wash your own. Show you the launderit tomorrow. Keep your side neat and clean. Get your sleepsuit on, make your bed and flake.' He slipped into his bunk, flipped open a small head panel and thumbed a switch. His side of the room went black, as if a wall had cut one third from the whole. Jason, crushed by fatigue now, snapped a blanket from the pile, wrapped it carelessly around him and huddled into a corner of the bunk. With leaden fingers he pried open his panel, stared at a row of switches and pushed the yellow one set off by itself. There was nothing but a faint shimmer of light from floor to ceiling, down the centre of the room, and he lay in the dark, mind nearly numb. Finally he gave up to the tremendous need for rest. Restlessly, fitfully, he backed into sleep, until only that extra sense of the hunted remained alert.

There was something behind him, following at a distance: he could sense it without seeing or hearing, and he quickened his pace to the access hatch of the robofreight track. As he cracked the hatch he saw that he was in luck, that a truck was shunting off the main line. The pick-up caught its undercarriage and it moved towards him, rubber wheels whispering. Deftly he swung up over the end rail, balanced and pushed out flat on a packing crate. The truck moved steadily past two block sidings, past the third hatch where Jason would normally have dropped off, past the third siding, and he slipped easily to the side at the fourth hatch. Far down the gloomy tunnel he saw another truck shunt in and—was it?—he knew a figure flitted from the hatch he had used. The muscles across his chest tightened slightly and he felt the quickening; the sharpening that always came with pursuit. Ducking out the hatch, he raced down the narrow corridor, doubling twice through cross-passages and finally knelt above a grill, prying carefully at two corner screws. The square lifted and he slid under, to land crouching on a junction cube in a service tunnel. Cautiously he lowered the grill, making sure the screws fell into place, then flipped down on to the curved conduit and ran again. He threw himself up and across several cubes until, at last, he squirmed off one at right angles and crawled, straddling the smaller conduit, to the end where the distribution panel stood; a bank of seven-foot boxes stretching to either side. He stood up and moved to the last one, fishing in his tattered coverall for a strip of plastic which he slipped behind the catch. The door sprang ajar and he stepped into the empty box and closed it after him. Then he waited.

Unmoving as a figurine, breath slowing to nearly nothing, he waited. Time spun out and he was able to think, though still aware of a questing presence somewhere outside. What had he been doing? He had made a real pick from the storeroom under the autoteria on the thirty-eighth level, used the elevator just like a Mark, got off at sub-three and used the watermain ladder to sub-five. He'd stowed some in his own hole behind the loose panel over the block

heater units and taken the rest to Almann. It was vivid now but jumbled, somehow disjointed. Almann had stopped work on some new gadget and they'd eaten a hot meal for a change. The old man was more normal than usual, talking a lot and most of it sense.

The new power pile was working and Almann said craftily that now there was no chance that They would find him. Jason had never been sure who They were. Not the Stab, or at least not the part of the Stab he himself feared. Almann was quite different from the Pickers, like Arnie the tronman and himself. The old guy had been big up top, Varsity, Jason was sure, but he thought something he knew was too much for the Marks, and he'd disappeared down here. First Jason had known of him was when he'd pounded open a meat can on an old rusted cut-off valve. The end had swung out of a battered tank sticking out of the wall and knocked him flat. Almann had dragged him in and threatened to kill him if he messed with the water supply again. The valve looked dead, rusted shut, but it had no guts and Almann drew gallons for his 'work' which the boy had never fully understood. He had joined three old boiler shells, walled in and totally forgotten and rebuilt them into a first-class 'lab', as he called it. It housed masses of stuff that the old man had swapped for special hand-made tools just for Pickers. Hadn't been so bad for Jason after that. He'd learned a lot when Almann was willing, some of his own when the old guy was lost in his work. He'd made it to where most tronlocks couldn't keep him from good pickings and he could even build some as good for pastime. What had they been doing, though? It blurred on him, and anyway enough time had gone by to let him take a look.

He barely cracked the door and listened. Nothing. A fraction more and he could see down the panel. Nothing! Yet apprehension was still with him. Whatever it was, it was somewhere out there waiting. He stepped out and moved to the metal door, palmed the lock with his 'key', and slipped into the corridor. Something flickered at the right-angle half a block away and he was running again. This time he could hear footsteps behind him. He dodged

through cross-passages and still it was there, a little closer. Down a ladder and across another corridor and he was almost home. He skidded to a halt alongside the unit and there was no panel. But this was his hole! He knew it! And there was no panel! The footsteps were louder again and panic took him. He ran blindly this time, but with the desperate cunning of the hunter hunted, in, out, up, down, doubling. Yet the pursuer drew closer and slowly, clearly, he began to hear the muted roar of the motorway. He turned parallel but found himself forced back. Nearer and inevitably nearer until, at last, before him was a small emergency exit off the motorway. Through it he could see the blurred stream of traffic, twelve lanes across, compelling, drawing, sucking him in. With his breath coming in huge, sobbing gasps, he forced himself to turn and look back, to face his nemesis. It was a huge figure, looming closer over him, but he couldn't seem to make out the features. In the naked fluoros an arm rose and from the clawed hand a belt swung, studded buckle flashing. Nick the Vert! Jason's heart pounded against his chest as the belt swung overhead.

He screamed endlessly, until his eyes suddenly snapped open and began to focus. The figure changed, grew smaller, and he realised it was Orest, holding him against the wall, yelling, 'It's all right, Jason, it's all right.' The room was bathed in light and he was standing pressed into a corner, feet braced into his mattress. Drawing a great, convulsive breath, he sagged down, out of Orest's grasp and shrank against his pillow, aware that it had been a nightmare, but shaking and drenched with sweat.

## Two

MORNING brought Jason out of a still-troubled sleep, groggily trying to sift the shreds of frightening dreams from the reality of the past. Already the events of a mere yesterday seemed remote and fading. He made a strong effort to piece things together, slowly forming a more certain picture of the

life he had known. People remained indistinct, but then, apart from Crazy Almann, he knew that he had dealt with them wearily, briefly; intent on concealing his own hunting spots, patterns, hole, everything about himself, while he picked up information about techniques, Marks, the Stab, anything that was useful. Painfully, he reassembled the complex network of routes, layovers and hideaways that had been his territory in the sub-subjungle of Tor—Toronto. The name itself was an unimportant item. He forced himself to think back, trying to find some beginning, but events became hazy as he worked through a hodge-podge of similar days. Had he always known the hunt? Back before Almann it was even more indistinct, and he could feel a growing apprehension, sweat starting again as he probed. And there, finally, was one clear picture of a sobbing child, crouched at the end of a service conduit. Before that—something like a blank viewer screen. Shaken, he pushed the memory out of his mind, feeling all to vividly the utter loneliness of the child.

He was somewhat more alert now, though fatigue seemed to press him down. Through slitted eyes he noted that the shimmer of light still ran down the centre of the room, even with bright sunlight edging around his half of the curtained window. He returned to memory, testing for more recent events. Two days ago had been the same. He had bypassed two tronlocks and lifted a double handful of modules for Almann. The evening was clear too. The old man muttering to himself as he soldered with patient precision, Jason playing with the pirate micro-scanner, bored by the slowly passing lists of names under Econo-o-mics, Economics! He had turned instead to a sheaf of schematics. Yesterday was no different either, at least its beginning. He had dipped bread into a tin of strawberry, raspberry?, jam, planning a lift. Cable! He had been going to lift cable from, an open struction ramp over the motorway. And there, with a sharp sense of relief, he ran into the same blankness, shivering from unexplained dread.

There was a finality about those blanknesses which told him that it was useless to waste time and with the abrupt-

ness of those who move on the fringe of wipe-out, he turned to the present. Only what he needed today would be retrieved from the past and he faced his new situation with neither joy nor sorrow, only a deep-rooted will to live. He rolled stiffly off the bed and began to examine his room.

Suddenly, behind him the light wall was gone and he spun to face Orest, standing over his crumpled sleepsuit and scratching absently at his solid, hairy chest. Jason took in the heavy, smooth-muscled body, the athletic ease with which the young man moved and erased one possibility from the back of his mind. Orest draped a towel loosely about his hips and plucked a toilet kit from his cabinet, motioning Jason to do the same. 'Guess we shouldn't push the schedule today,' he said. 'You'll want to flake early and catch up on your sleep. Good day for exams, though.' He smiled reassuringly. 'They go better when you're not too sharp. Keeps you from second-guessing, so your responses are true.' He palmed open the door and threw back, 'You want the best skill placement, so they'll be happy and you'll be happy with your progress. Besides, skill credits are nice.' He cut off abruptly and Jason followed him down the corridor. Orest was surely saying more than he should, had caught himself, but to the boy very little of the whole made much sense.

It was a strange but exhilarating experience as he felt the coursing water of a shower draw the stiffness from his body, and even more enjoyable to use a cake of soap, working up a lather over his arms and chest. He soon learned the use of a toothbrush (at least knew what a comb was for) and watched as Orest shaved, leaving a faint blue behind in place of stubble. In the mirror Orest grinned. 'You'll probably not need one of these till you're shipped,' he said. 'Maybe not then. I'm an old-fashioned safety razor man.' He rinsed and opened the instrument, showing Jason the parts and explaining the principle. The boy twisted it shut, ran it over his cheek, found it hard to believe it held a blade, until with widening eyes he looked at the welling cut on his finger from grabbing the wrong end. He followed

Orest back to the room with blank face, sucking his finger, storing a useful bit of information.

Jason welcomed the soft chime that announced breakfast. Together they retraced the previous night's route, the boy filling in a near-perfect visualisation of this part of the complex, noting with an uneasy feeling how few outer doors there were. He found himself wondering what the sub-level layout was, where the hideouts would be, but then, wryly, he set his mind firmly on breakfast and the coming day.

The hall was full but strangely quiet. There was background music, soft and full and peaceful. Any Musak Jason had caught from places of concealment had kept the cruddy Marks scurrying. Here nobody seemed rushed and yet they weren't wasting time. He and Orest picked up trays and food, moved to the end of one long table, and sat opposite another pair. Orest introduced himself and Jason to the other young man who smiled and answered, 'Ron and Mel.' Then he frowned slightly and said 'Orest? Four years back? Ping-pong tournament.' Orest thought briefly, then laughed. 'Sure. You were in Fraser Wing.' Jason caught a minute impression of pain as Orest continued. 'We must get together. Catch up.' Then he turned the conversation, saying in a neutral voice, 'We—Jason just came in last night.' He looked inquiringly at Mel, who stared back out of cold blue, bitter eyes. Ron put a hand on the boy's shoulder and said with affection, 'This is an old-timer. Been here all of a month. Last trip to the dentist this morning.' Mel had gone rigid, fork in the air. Now he threw it down savagely and shoved his chair back. 'I'm not finished yet,' Ron spoke softly. The boy's face twisted with rage as he snarled, 'To hell with you! To hell with this place, with everything!'

For a moment all conversation around them stopped, and Ron's voice came clearly but quietly over the muted music. 'Sit down. Now.' The boy's fists clenched and his throat worked as he threw a swift glance about him. For a brief span he stood taut and quivering, then slowly stepped back to the table and sat, tears of frustration spilling down his

cheeks. He picked up his fork again, tines up and out. 'Some day,' he hissed without looking at Ron, 'some day, I'll rip your guts out.' Everything dropped back to normal so quickly around them that Jason had a fleeting notion that he must have dozed off and dreamed it. But Mel still sat, eating with vicious bites and though Ron was talking about something else there was a lurking, sad set to his mouth. Another item stored.

At booth 13 Orest explained the procedure. 'The first part is written,' he said, 'and will show how well you can read. But put these phones on if the screen tells you. These buttons are for Yes and No, and these are numbered to four. Pick the answer that fits best. I'll be up front.' Jason found the routine quite easy to adjust to, but very soon the words were becoming too difficult for him to mouth. After a particularly long wait, the screen said simply, 'Put on your headphones.' He did, and suddenly the pace of questioning accelerated, as a clear, smooth voice took over. He wanted to rest after the test on words, but there wasn't much time lapse before the screen lit up again and he was matching shapes, checking out the odd object in a group, setting up sequences. The screen went blank and he was answering a new kind of question. This is so, that is so, then is this so? The first few were childish, but then he caught himself being tricked. He picked up traps in the way things were worded, realised that his instinctive answer wasn't always right, in the pattern. He found himself disagreeing with first or second statements and he was relieved when the voice offered him a chance to reject any of them. It became an exciting challenge and when it ended he actually felt disappointed. Yet he was trembling with fatigue when Orest took the phones from his ears and kneaded the back of his neck. He blinked and made his eyes focus, then rolled drunkenly up the aisle after the young man, who had stopped again at the computer console. The machine extruded a long sheet of paper which Orest plucked out and studied. He had turned slightly away, but as Jason watched he could see the man's head slowly come up, until he was staring off into space. At last he turned back and said,

rather carefully, 'Well, Jason, you're no great shakes on reading. You'll pick that up soon enough, I imagine. Non-university personality set. Yet—160 IQ.' He cleared his throat. 'It's time for lunch now. We'll take a rest and go on this afternoon.'

After eating with another pair much like Ron and Mel, they returned to their room, where Jason threw himself across his bed and dropped immediately into sleep. It seemed only minutes later that Orest was shaking him gently. He rolled irritably to the wall and dug his face into the pillow, muttering, 'Lemme 'lone. Wanna sleep.' But Orest became more insistent, finally seizing him under the armpits and sitting him firmly on the edge of the bed. 'Come on,' he said shortly. 'Time to take the rest of your exams.' Jason, temper flaring, snarled at him. 'Tomorrow. I'll do 'em tomorrow. I'm too tired now.' Orest stepped back and folded his arms across his chest. 'You'll do them today! Or tonight! Or at three in the morning, if I say so!' he barked. 'Now get on your feet.' Jason's lip curled, but as he began to speak a vivid memory of Mel came into his mind. Surly, but obedient, he rose slowly and brushed long hair out of his face. 'Straighten up your bunk, fast!' Orest prodded and once again defiance flared in the boy, and as he controlled it he felt it subside into smouldering resentment. He could easily come to hate this man, but it wouldn't be smart to let it show. Mulishly he spread out sheets and blanket, checking Orest's bed, but try as he might he couldn't make his as smooth and tight. Finally Orest showed him how, ending by dropping his scribe in the centre to see it bounce. 'That's the way it will look every morning,' he warned, 'or you'll lose rec time remaking it. Now let's get moving.'

And back they went to the exam room, where Jason spent the afternoon doing questions about heat, light, air, numbers and such, completely incomprehensible stuff about places and people he'd never known, and finally, schematics! As with the morning's exams, the last was fascinating and he wanted to go on even though the diagrams were becoming complex beyond anything he had worked

with before. When it was over, he merely put his head down on the desk and searched for strength to move, while Orest went to the console and completed the evaluations. He couldn't protest when he was physically lifted from his chair and led to the dining hall.

Through bloodshot eyes he acknowledged the presence of yet another pair, while he mechanically stuffed food into his mouth. He barely noticed the people scattered through the lounge, relaxing with various pastimes, on his way to their room. Bed was a pit of welcome oblivion and he was asleep before he could give a thought to the day past.

Sometime during the night Jason could recall having half-wakened, driven upward towards consciousness by nightmare, but it seemed not to have lasted as long and he had sunk back into sleep after a few fitful starts. This time he had a vague recollection of hanging outward over a wall, caught by the backs of his knees, while a large, blurred figure threatened and the motorway thundered far below. Then he was falling slowly downward, towards the rushing traffic, until he woke. Despite the one interruption he must have slept well, for he felt alert and rested, ready for whatever Orest might inflict upon him.

That stalwart was once again up and stretching, stifling an enormous yawn as he stripped the bedclothes from his bunk and motioned Jason to do the same. The boy got the job of taking clothes and linen to the launderit and after eating they picked up the clean laundry. He did a passable job of making his bed, somehow anxious to match Orest, then they were off to tour the school complex, marvellous in its scope and compactness. Labs and shops of every description were arranged in the central area near the dining hall. Sleeping wings radiated from this hub, and between them were open areas and a 'gym', where it seemed one could play at all those things the Marks loved watching on vid-screens. There was even a building with hockey rink and curling sheets—which had been too far beyond his daily fight to survive to capture his interest. He was dazed by the immense gulf between his past life and what lay before him, frightened by the sudden realisation that he

would be expected to take part, that most of the people here must use all these. For the first time, he began to wonder what the others had done to be trapped here, what he had done. Nevertheless, a wary corner of his mind noted that the shape of all Orest had shown him was a semi-circle: the layout was clear, every room and corridor from his wing—Lacombe?—to the farthest, MacKenzie Wing, which was on a straight line right through the central complex. And what did that mean? There were no discernible exits to the other half of the circle. Store it!

When they returned, shortly before lunch, Orest showed him how to fold back the top of his deck and pull up a scanner. He went over the instruction manual carefully, dialling microfilm and tapes from the library, showing Jason the reading aid attachment. 'I'll have a programme for you tomorrow morning,' Orest smiled. 'According to how fast you go, there'll be adjustments made. For now,' he added, 'you'll do what I think you need: I don't think you'll have to read all morning, somehow. Once you get that skill out of the way you'll spend time in the labs. And there's PhysEd too—got to put meat on them bones.' He laughed at that and as the chime sounded they went to lunch.

Jason had found himself wondering about this whole setup. The Stab had said he was guilty of some big trip, but so far he couldn't see where the hook was. Bread, a sweet hole, a chance maybe to dig 'tronics; it sure wasn't the wipeout he'd expected from listening to the other Pickers. But back in the room he got his first taste of the hook. As soon as they'd closed the door a panel above it slid back and a long buzz drilled his ears. Behind the panel was a scanner which showed simply—Lenchuk Berkley: KP Area 2: 6/24—7/10. Orest sighed and pressed a button in the top of the door frame. 'Well,' he murmured, 'they still get you moving right off. We've got sixteen days of KP, starting now.'

It was hot, despite the climatrol, and Jason had never worked so hard in his life. Pile after pile of dirty cups, plates and cutlery was racked and sent through the

washers. His utility suit clung to him and he took small comfort from the fact that two other boys, faces drawn and sweat-beaded, worked alongside him. Behind them, Orest and two other men were checking out belts and loaders and through one of the belt accesses Jason caught a glimpse of two others working in the more familiar area behind the serving doors. He had raided that section in more than one autoteria and he wondered now if there had been anyone in the next room, doing what he now slaved at. No: there would have been more noise. Must have been robos.

With a groan of relief he helped to send the last rack into the washer and squatted down to rest. 'All right!' Orest called out, 'stack 'em!' With incredulous anger, he turned to see Orest pointing to the empty loaders. The other boys had already begun to clear the hot racks and Jason followed, inwardly seething. One more point against the big crud, he thought, letting anger sweep through his body to give him strength. It had not left him when he loaded the last pod of knives and they methodically mopped the floor right to the entry, so he called up images of himself standing over a sweating Orest, mopping with a toothbrush. It nearly made him smile. His back ached and his fingers were puffy, his face felt oily and his hair was stiff, but when they had showered and had supper he was still alive enough to go into the lounge with Orest and watch for a while. Most games didn't interest him much. He might learn to play some day, just to see if he could beat these Marks. The one with the funny pieces though, that looked promising. He could see an infinity of corridors on the chessboard, could see that some of the pieces, just like the Marks, had to stick to certain patterns. Only one big piece could go anywhere it pleased. He found himself remembering the levels of the city he had known. Yes, this was a game for him. When Orest, answering, said he played, Jason noted a slight caution, a veiling of the eyes, and after that he knew the man was watching, thinking.

As he bedded down for the night, the boy mulled over everything he had learned in the past two days. Life here

had its bad qualities, like Orest, who was still up and prowling the other side of the light wall. That kitchen work too, and probably crud like it—they might have a number of unpleasant surprises for him. Well, he had some surprises for them too. If they thought they were going to break him, Orest included, they were dead wrong. He could take that slop every afternoon and morning too, for that matter. There'd come a time, meanwhile, when he would find the way out. And if he got into the labs, he'd leave a little present for the big crud too, when he busted. It was a pleasant way to drift into sleep and his night was completely untroubled at last.

It was fantastic how time seemed to fly after that. Jason moved from one thing to the next so quickly that he had little time, except in the private moments before sleep, to puzzle over what was happening to him. He had picked up his reading with very little trouble and even Orest was impressed, which gave a bitter kind of satisfaction to the boy. But the young man gave him little praise and a hell of a lot more work for his reward. He had taken quite naturally to the sciences, and would have spent all of his time at the scanner on that part of his programme, but the ever-present Orest would look up from his own work, check the time and pry him loose sometimes almost physically, to make him work on history, geography, sociology and a batch of garbage. He hated languages and won only the small concession from his tormentor that he could use phones and take a dose late in the evening, so long as he could pass the weekly quizzes.

It was the same with other activities too. He actually liked gymnastics and he knew that someday he would pass Orest, in fact leave him far behind. Even now, on the bars and rings, he was performing better than boys years older. But team sports he couldn't stand. There was a barrier between himself and the other boys which he himself created, he knew, since most of them got on with one another, but he couldn't bring himself to do anything about it and they didn't make much of an effort either. In the lounge he

played only games against a single opponent, with a fierce concentration and graceless exultation over winning that soon left him few takers. Orest had remarked on it when they sat playing chess one evening, while most of the others were at a baseball game in the late summer sunshine. 'You know,' he had mused, 'there's a lot more to life than being top man in games.' Jason had snorted derisively at him. 'What more is there in this cage?' he retorted. Orest had sat back and looked at him sadly, obviously seeking words. In the end he had merely said cryptically, 'Until you get *that monkey off your back*, there isn't anything more.'

But with summer gone, and the dusk settling at 20:00, and then 19:00, he got his chance at the labs and he couldn't have cared less about his social life. Orest had to tear him away and finally requested that they be assigned to evening labour, in order to give him more time in the day. It was then, too, that Jason had his first real look at the world outside the school, although he was still inside a fence. They went to harvest, working among the combines and trucks and he was overwhelmed by the fast, sweeping fields of grain, stretching out towards the dusty foothills, framed by the purple haze of mountains. The sheer space was unbelievable. A strange emotion woke in him, one which he couldn't define, but which brought tears to his eyes when he stopped to rest and look. They worked on into the darkness each night, the combines lumbering glaring-eyed across the sections of school land. Then one night it was over. The combines lurched out a great gate, were taken by strange drivers and moved on, leaving the inmates to clear off, fill the last granaries and go back to school. It was the pigbarns and dairy next for Jason and Orest, where automation or not the work was still hard for the boy, and Orest, ever-watchful, made checks and repairs.

Perhaps it was winter, perhaps his imagination, but as time wore on it seemed to Jason that Orest was becoming more and more oppressive. Just when he was settling into a routine that suited him perfectly, Orest had switched it around. He had wanted to stick with the tronlab, fascinated by the possibilities it presented, when Orest announced

that he must move to physics. He had bitten back angry words and set about mastering his lessons with vicious drive. Then Orest had told him he was going to study literature in the mornings and when he furtively dialled a film on trontraffic, the cruddy bum had wired a limiter to his selector. The last straw came when he put the gym off limits.

It wasn't much of a fight, really. Orest stood impassively in the centre of the room and repeated carefully, 'The gym is out of bounds. You're going to the hockey rink.' Jason was incredulous. 'Ah, come off it, Orest. I can't even skate, for crisakes,' he pleaded. But his custodian simply folded his arms, mouth in a thin, straight line. 'What are ya tryin' to do to me?' Jason's voice rose. 'You're takin' away everything I like, everything I want.' Even more shrilly, he shouted, 'You're jealous, damn you. You know I'm good, better than you are—better than you'll ever be, you lousy crud.' On the last his voice broke and it came out in a wailing falsetto that shattered his remaining control. In a blind fury he rolled off the bed, fists flailing, only to find himself pushed back hard enough to bounce off the mattress, against the wall and down on to the bed again. Shaking his head, he launched himself at Orest, who grabbed him in mid-air, swung him around and bounced him even harder off the wall. With animal rage, Jason drove for the other's legs, found empty air, and slid head first into the cabinets under Orest's bunk. Nearly unconscious, he managed to sit up, blood streaming down both sides of his nose from a cut on his forehead. He tried to get his feet under him, sat down heavily again and shook uncontrollably. He watched helplessly as Orest took a facecloth and left, returning to wipe his face and utility suit and hold the cloth to his head. He was carried to his own bunk and dropped, and as he lay face down, shaking from the emotional storm, he listened to his custodian.

'It took a long time, Jase, longer than most, but it came.' Orest paused, hoping the boy would understand. 'It always does, they say. Even with a genius.' He sighed heavily. 'I don't think you need the medic. And you're going to learn to skate. You'll play hockey if it kills both of us.' He rose

and stripped off Jason's suit, not roughly, pulled the sheet and blanket from under the boy and covered him. Jason, crushed and humiliated, retreated somewhere deep within himself to nurse a cold, steely hate. He lay awake for a long time that night, thinking, planning, and finally slept.

### THREE

HE did learn to skate. His fine balance and sinewy leanness made it surprisingly easy and good skating enabled him to play passable hockey with the others, most of whom had had a stick and puck before they could walk. Nevertheless, he played with a singleness of purpose which kept it from being sport with him. His lightness made him vulnerable too, and no matter what team he played with, his opponents seemed to relish catching him with a bruising check or a shoulder along the boards. Still, he didn't retaliate. You don't score in the penalty box. And at least Orest and the other men were scrupulously fair about refereeing the games.

He was careful to do everything he was told, now, and seemed completely indifferent to changes in his programme. Orest had an uncanny ability to spot his growing enthusiasm for a subject and several times thwarted him again, but he was determined not to let his frustrations show. Commonsense had told him that sooner or later he must return to some things, that very few subjects had been more than opened up for him. Just after Christmas, a meaningless respite, he got his chance to return to the tronlab. It was the one thing he had been waiting for, not merely because he had an all-consuming interest in it, but because he had a long-considered plan in mind.

To even a sharp-eyed observer it would have appeared that Jason was following out reasonably circumscribed projects; constructing model trontraffic controls, authorised computer circuits, standard test equipment, at times playing with his own refinements and demonstrating them to Orest, who clearly had other specialisations. That in itself gave

him a sadistic satisfaction, having a labtech praise his work while Orest looked on, not quite following. But in the brief time he allowed himself after completing a project, before checking out, he stole a moment for the all-important thing. First it was a casual touch of screwdriver to the face of that detestable plate in his arm, with its shimmering DEPENDENCE. He'd never seen Orest's clearly, but it surely didn't say that! On the first try he got only a tingle. Next day, with a 'slip', he numbed his whole arm. What was the difference? Touching the centre gave the least effect, but closer to the edges he could nearly put himself out. Adding it up, he recognised a peripheral force field. The cruddy Stab probably had it rigged to destruct if anyone tried to remove it for you.

The plate itself, he had long since deduced, was a combination sensor and transceiver. Just from the advanced equipment he was using here, he knew they could monitor and control as many circuits as they wanted in a unit that size. He'd seen a beauty almost as small in a tape on the Mars landing team, grafted between the shoulder-blades. And what did it amount to, after all, but a sophisticated version of something he had worked over often enough. He could visualise the circuitry closely enough for his purpose. His concern was not with the device itself, but with a counter-device. And here he had experience to draw on. It had been a long time since he first sat in a corner at Almann's, cannibalising an old, useless 'key'. Painfully drawing out the schematic, he had rebuilt it, with a minor modification of his own that Almann had absent-mindedly Ok'd. He'd built more than one since then, each one better than the last, until he was able to open most regular tron-locks he'd run up against. A key was, essentially, a jammer, and that was what he wanted now—a jammer to cut him off completely from the Stab when the time finally came. Yet this one had to be different, had to invert rather than broadcast, or they could spot him just as easily. It was a problem that occupied every free moment until he achieved a breakthrough, for it had to be right the first time.

So the months passed into March, while he carefully

slipped in the occasional experiment with micro-circuitry. He secured and re-used a small oval watchcase, left it lying in the drawer of his bench, and each time carried a tiny submodule back to his room in the toe of his utility suit. Piece by piece, crafted with jeweller's perfection, the unit was designed and constructed, until nothing but the power seed was missing from the pile just inside the bottom of Jason's scanner frame. Finally he got that too, when he turned in a 'defective' and retrieved it with a wet fingertip as he held the new one up to the light to hold the stockman's eye. Orest had been right behind him, and it filled Jason with unholy glee as the two men searched for the missing seed. They'd find it all right, on the floor in front of the counter, but it was a useless grain of graphite strung on a hairwire, identical in appearance to the real thing.

Three days later he assembled the jammer, every part fitting perfectly into the case and wired the stem to the seed. On the bench was a minituway receiver showing a steady output. Three types of sensitive detector were on in the bank of test equipment, covering the whole communication spectrum. He took a deep breath and pulled out the stem. Not a needle trembled. Casually he cupped the case under his palm and placed it over the tuway. The output meter dropped to zero. With his free hand he switched to transmit, flipped the dial of the meter and watched. Still nothing. He depressed the watchstem. The meter jumped to full output. Shakily, Jason put both fists to the neck of his suit and pushed his elbows back, stretching. The case slipped down his chest, across his twitching stomach muscles, down his leg and against the arch of his foot. An hour later he turned in his project and sauntered back to his room with Orest, innocently chewing at a scrap length of plastic.

It should have made up for the growing friction between himself and the other boys, the gnawing rebelliousness over Orest's constant meddling with his programme, his demands for absolute obedience. He had held all his frustrations at arm's length, curiously like a disinterested specta-

tor. But in the early morning, wide awake, he tossed in his bunk as the full measure of his grievances closed in. Instead of peace, in the certain knowledge that he now possessed the means of escape, resentment and half-thoughts of vengeance raised in him the torments of the persecuted. The next morning he refused to study the material set out for him. Orest, patience long exhausted, snapped out 'No study, no food! Bread and milk until you smarten up!' Jason all but radiated white heat as he turned to the scanner and balefully stared at the unrolling pages of gibberish.

Orest watched in grim silence, slammed his scribe across the desk and stalked out to the bathroom. Jason waited, stiff-backed, counting seconds. At fifteen he rose quietly, slipped across and opened Orest's cabinet. Quickly he reached in and unzipped the toilet kit, thumbed a razor blade out of the dispenser, replaced everything as before and sat down in front of his scanner again. The blade went with the plastic and watchcase, inside the scanner frame. For the rest of the day he was docile, to the point where Orest seemed to be suspicious, so he made a point of arguing with the other over chess in the lounge that evening. It nearly backfired, as the boiling emotions he had submerged for so long threatened to erupt, but he managed to hold on to himself. He made a familiar enough picture, standing white-faced and hollow-eyed over the scattered pieces, slowly buckling to submission under the authority of his custodian. Others shrugged off the common occurrence and Orest seemed to accept it as a return to the hateful norm. Later, behind the light wall, Jason sat at his desk again, scanner humming at normal speed and cut a strap for his watchcase from the length of plastic. Then, with deft care, he sliced through half the thickness of the remaining plastic at one end, almost to the width of the blade. There he left it embedded. He slipped the short piece of plastic between third and fourth fingers and clenched his fist, noting with grim satisfaction the edge of the blade ran the length of fingers from knuckle to first joint. It was a nasty weapon, deadly if used precisely. Watching and listening to the other Pickers had taught him many things.

He was ready. And small comfort it seemed to bring. In the morning, with quiet confidence, he had taped a 'blister' on his heel and furtively slipped his small weapon into the foot of his suit. The feeling of smug pleasure had lasted through study session and lab, but somehow he felt all the more vulnerable in the late afternoon, when he stripped and put on his hockey equipment. Skating by himself at one end of the rink, while the others went through stupid drills and skull sessions with the men, he whipped the puck at the boards, but could not capture his usual savage pride at the pin-point accuracy. He found himself wondering why he was always with the older, heavier boys when there were others his own age. He seemed to take more and more physical punishment lately: everyone seemed to enjoy racking him up. Well, he could take it and sometimes made them look like stupid Marks when he got away for a clean shot on goal.

But today it seemed harder than ever and it began to get to him. To make matters worse, twice he took what should have been obvious fouls and no one called them. During a shift when his line was on the bench, he suddenly realised that it had been Mel, dumb Mel, who had got him both times. Back on the ice again he concentrated on getting the puck and when at last it came sliding out of a mixup near his own goal, he hooked it under his blade and picked up speed. Flashing down the right wing he finessed the defenceman and closed on the goalie. From the corner of his eye he caught movement, but the shot was there to be made. Wrists cocked, he feinted towards the lower stick-side, saw the goalie commit himself, had the whole upper glove side of the net to aim at. And incredibly, a knee came up into his groin, a heavy body smashed into his left side, and he was spinning through the air. He lay at a grotesque angle, watched as there was a minute pause among his teammates and gaped as play went on. A grinning, taunting Mel arced by him and moved out, as his forwards carried a three-man break to the far end. Jason somehow made it to the bench, tears stinging in the cold at the injustice of it. Grossly unfair! That he had never held the concept before

meant nothing. He was washed by a mind-sapping wave of rage.

The game was over before he could get back on the ice again, but this time he could not set it to one side. In the dressing room he stopped before his locker and waited for Mel to come by. Around him, the happy buzz of after-game razzing began, while he dropped stick and gloves, drew off his shirt and unlaced hip-pads. Mel came alone, between the benches, a superior sneer aimed just for Jason and the boy stuck a hand out at his chest. 'You fouled me,' he hissed. 'Three times!' The other stopped, sturdy on his skates, and smiled innocently at the rest. 'Me?' he asked. 'I didn't hear any whistles. Did you guys?' There were mutters, some agreeing and a few non-committal. Reassured, Mel grinned again. 'Besides,' he snickered, 'what could you do about it, star?' Without thinking, without warning, Jason caught Mel flush on the nose, staggering him for a second. The youngster's eyes widened as he grabbed his nose and found blood on his hands, and with a strangled bellow he charged forward, skates thumping. By sheer weight he knocked Jason back into the open locker and all reason fled. Groping under him, the boy reached into the foot of his suit and clutched his plastic strap. He came up swinging as the group of players fell back. Once, twice, the wicked blade sliced, opening up Mel's shirt, baring the stuffing in his shoulder-pad, and as numbness struck, turning his bones to jelly, Jason found himself lifted off the floor in a crushing embrace. A babble of excited voices rose round him as Orest, holding him with one arm, plucked the blade out of his loose fingers and then flung him down on the bench. Everything came back into focus with chilling clarity, as one thought pounded through Jason's brain. Blown! He had blown it!

What he had expected, Jason couldn't say, but in retrospect it looked not too bad. He and Orest had sat for hours in the great hall, waiting silently until they were summoned to the indoctrination chamber. There the same three men had appeared, looking and sounding more severe than before. 'Jason Berkley,' the first said harshly, 'consider the

seriousness of these charges. Carrying a concealed weapon. Armed assault. Deadly intent. Do you deny any of these?' Jason was bursting with the urge to shout out the injustice of it, to tell how he had been provoked. But he knew that appearances were against him and he remained silent, looking downward. 'You are at present not under civil jurisdiction,' the voice continued, 'or major punishment would be exacted. Instead, you are barred from the environs, rights and privileges of this school until such time as you are found fit to return.' The second man addressed Jason. 'In the eight months that you have enjoyed the unique opportunities afforded by this institution,' he said in an even more grave tone, 'you have made astonishing progress in your programme. We have twice revised your productivity potential upward. Your usefulness to society is unquestionable. However, you have shown no progress in social adaptability. If this does not improve radically, since you have nearly exhausted the tolerance factor, it will be economically unfeasible to allow you more resources.'

Mumbo-jumbo, Jason thought, but he could grasp the threat. It meant that they would erase him; give him a wipe-out. Then the last spoke. 'As with all human relations,' he said sadly, 'there is much under the surface to explain your actions. We are aware of circumstances beyond your violence. Nevertheless, you cannot remain as a disturbing influence. You will be sent to seclusion, to pursue a more rigorous programme under absolute supervision. Stand back!' Jason shuffled towards the door as Orest stepped forward. 'Orest Lenchuk!' the last man continued. 'You have not performed your duties. Parts of your programme should have been more scrupulously researched. You are not a skilled psychologist, yet sections of your bibliography should have been attended with care. Note those on sibling association and particularly the complications of rising Oedipus manifestation. I need not stress the consequences of failure.' He closed a small scanner and snapped out the cassette, as the TriVid cubicle went dead.

April first! 'You're sixteen today,' Orest had commented bitterly as they slung their meagre possessions into the

robofit. 'Sixteen, and you're a disaster looking for a place to happen.' They had settled into silence, bundled in parkas against the sharp cold. From his side, Jason watched the country change beneath them as they raced westward, parallelling a barely discernable roadbed to the north. They had left even the vast ranchlands behind and were moving bumpily across unbroken forest, through air currents roughed by the foothills ranging north and south. In the distance the mountains grew taller until it seemed that they should reach them any moment. Finally they towered over the craft in awesome, naked splendour, threatening to spill down the masses of snow from their upper reaches. Yet for all their intimidation Jason ignored them and as they descended towards a narrow, flat strip in a shallow valley he tasted a fraction of triumph. In his toilet kit, at the bottom of the duffel bag they shared, was the watchcase that Orest had missed when he searched Jason's side of the room back at school.

They dumped the bag into waist-deep snow and stood gasping in biting wind until the robofit took off. Then, with Orest breaking a path, they made their way to a crude, solid cabin. If Jason had begun to see his early life in Toronto as bare survival, this was calculated to make it seem like luxury. There was a startling contrast between the two small, remote scanners and the split-pole desks they sat on, between the vidscreen in the wall and the huge woodstove next to it, between the shelves of compact foodpacks and the metal bucket and pan beneath them. Leaving the bag on the floor, Orest took a ring of flat metal keys and fitted one into a door. It opened into a small room containing hand tools, shovels, a locked rack of guns and a sealed power unit. Hefting a broad axe, Orest locked the door and headed outside, calling curtly to Jason to follow. If they were ever to warm up they must cut wood for the stove. It was a gentle introduction to New Eden.

Actually, the basic chores proved almost a joy to Jason, no matter how they taxed his strength and endurance. Anything was better than the battle that evolved inside. Day after day, Jason was subjected to a constant stream of

commands, corrections, abuse. Nothing he did pleased Orest and he found himself repeating simple exercises, re-reading endless amounts of social history, ferreting out the smallest details of literature until, sometime in the early morning hours, the relentless figure would point and he would drag himself to his bunk. The only consolation was that if it was tearing him to pieces it was nearly as hard on Orest, who was looking gaunt and hollow-cheeked. Jason knew that he was doing his own studying too, had even wakened briefly to hear him talking indistinctly at the vidscreen and wondered if he might yet win, if Orest were slowly losing his grip. He had to win! If he lost, a soul-destroying chasm yawned at his feet.

As the first days of May came and went, he was running on some unfathomed reserve deep in his being and it was almost gone. In one morning's sunlight he took a huge breath of chilly air and found that he could not, would not return to the cabin. They were out to cut wood again for the great rusty monster that swallowed cords at a time. Or at least Orest did the cutting while Jason carried and stacked. They both knew too well what Jason would use the axe for, and with stunning simplicity, a quirk of fate, Jason's burden was lifted. One moment he stood captive and the next Orest was flat on his back, felled by a bullet-like chip that blurred off the biting axe blade from the deep vee of the log.

Not quite that simple, for Orest never completely lost his hold on the axe. But he weaved and swayed as he groped for a tree trunk, his lids kept closing over blank eyes and his speech was thick as he waved a heavy arm, beckoning Jason to help. Cunning stirred in the boy as he moved slowly to assist, putting his shoulder under the other's arm and guiding him. He might grab the axe and get Orest in one sweeping chop, but it was risky. Attack might rouse him enough to fend it off. Better to wait. At the cabin, Orest steered them doggedly to the storeroom, fishing with clawed fingers for his key ring. Dropping the axe inside, he locked the door and stumbled to his bunk. Jason dipped a

cloth into water and placed it on the side of his companion's head, where a swelling ugly bruise showed through matted, bloody hair. He calculated the risk as he held the cloth in place and Orest hovered on the edge of passing out. He could do it now, in one of several ways. But to his disgust some vaguely similar incident from the past woke in memory and he found himself discarding the idea, rationalising it away. After all, if he shouldn't make it, killing Orest was a sure ticket to a wipe-out.

Reluctantly he straightened Orest's legs and left him lying on his side, cloth beneath his head. He was breathing heavily, but it looked as if he'd sleep it off. Jason stripped the blankets from his bed and rolled them, crammed as many foodpacks into the duffel bag as it would hold and strapped the mass into a bundle, leaving loops to slip over shoulders. Quickly he filled a water container, tied it and a pot to the bundle and stuffed a box of matches into an inner pocket. Last he took the watchcase from his kit and strapped it on over the plate in his arm, reading that damned *DEPENDENCE* with humourless irony. The tingling hit an intensity just short of numbing his whole right side, but his heart thudded triumphantly when he pulled the stem and instantly the tingling stopped. Massaging his arm, he stepped through the door and was gone.

The roadbed had run to the north of them, at the end of a series of small connecting valleys. Where there was a roadbed there were robofreights and someplace was a layover. There was probably a motorway too, he thought, with that faint queasiness that the image always brought, but not this side of the roadbed. Two or three days should get him there and the weather was good. Brilliant sunshine threw a dazzling reflection off the patches of melting snow as he made his way through light cover along a creek bank. He made good time even when he was forced to climb, breaking through heavier timber at the end of the valley. The sun moved across his left shoulder and plunged behind a rocky summit, leaving Jason in that sudden, thickening twilight which he had barely noticed before. With a light breeze in his face, he pushed forward until he could hardly see,

finally fetching up in a tiny clearing under an overhanging face of granite. There he built a fire, ate a foodpack and drank. For a complete novice he managed surprisingly well, even arranging his fire so that it burned slowly and evenly until near morning. Yet when he wakened he found his feet and hands were lightly frost-bitten. The temperature had dropped well below freezing, close to zero, and until he rebuilt his fire it was painful to move.

He ate sparingly and moved off at a fast pace, the wind more brisk now and the sky overcast. The going was rough too, and he wound up boxed at the end of a canyon near noon. He had only made it across a ridge and down into the next valley when night fell again, accompanied by a sifting of dry, loose snow. It was brutally cold now and he huddled for hours, dozing fitfully, until he finally fell into a troubled sleep sitting up. A piercing scream brought him awake, trembling with cold and fright, almost too stiff to move as he stared into the darkness beyond the embers. Off to the right there was a coughing sound and he knew some predator was stalking. It was sheer agony to stir, but he shoved twigs and then some small branches into the coals and slowly brought back a flickering ring of light around him. Then in the stillness came another disturbing sound. High above him the wind was moaning through the trees and all about him was the hiss of falling snow.

By morning the wind was howling, driving solid sheets of snow into his eyes. The footing was treacherous in the undergrowth that whipped across his face and tore at his pack, for the little gulleys were filling in, inviting the step that would plunge him hip-deep. Wet, clinging snow soaked through his leggings, his parka, until it seemed to lie against his flesh and freeze it to the bone. The wind had changed. He came on tracks, spun about, and realised that they were his own. And the temperature was plunging below zero. He fell once, got up and pushed on, fell again, got up again, knew that his fingers in the mitts were sticks of ice. Many falls later he couldn't get back up and it was easier, much easier, to lie there drowsing, slipping off into . . . He brought his head up by a tremendous effort, opened eyes caked shut

by snow and crawled. Around the next trunk and into the next hollow. Pulling himself along a little slope he rolled over on his back, arms and legs splayed without control, looking upward at the unfocused face far above him. Faintly he mouthed the words that should have come long ago : 'Help me, Orest, help me.'

Another April first. Eighteenth birthday. He had been right, back there in the bush cabin, for it *had* meant the end of the old Jason Berkley. The new Jason, however, had found freedom in submission, a marvellous world which held more than he could ever embrace in his great hunger for life, for experience. After Orest had hauled him back an excruciating ten miles to complete the great circle he'd run, he'd come to know true dependence. For weeks he had lain motionless, fever coursing through him, dependent upon Orest for life itself. And later, he had found himself unable to do the slightest task, make the smallest decision, without Orest's guidance. The most brilliant accomplishment was without meaning or pleasure unless Orest approved.

Of course it couldn't go on that way. But Orest had given him what he needed unstintingly, given so much of himself that they were closer than father and son, or brothers. And the immense rewards had grown day by day to fill him with never-ceasing wonder. The studies which he had undertaken at the start were the merest fundamentals. With Orest to explain, suggest, he had mastered and enjoyed the full range of his programme. More important, he could count as friends all the boys in his wing and a host of others. He and Orest had moved to paired sports, mixed groups, and he could talk respectfully to the other men, receiving warm courtesy in return.

His seventeenth birthday had been a step forward too, for he had found out what made up the other half of the circle—the mirror half of his, save that it housed girls. Frightening at first, they were, until he saw that some of them were just as apprehensive as he was. He still hadn't been comfortable, but as Orest pointed out they made up half the world. Eventually Orest had given him a choice :

take them or leave them. But he knew Orest was pleased when he doubled with him on weekend evenings. When sex education had been added to his programme it had become acutely embarrassing, seeing these creatures with double vision, so-to-speak, as biological organisms and as feeling, thinking human beings. It had finally penetrated that he was really being prepared for the outside world. The idea was shocking, but he now wondered at how naïve he could be, when all the clues had been there from the start.

The outside world indeed. This morning he and Orest had been summoned to the great hall again. They had stood in front of the door to the indoctrination chamber and Jason noticed that he was taller than Orest, though still lighter. Shoulder to shoulder they had faced the TriVid cube, charged with excitement. The ceremony was over so quickly that Jason felt a bit cheated. The same three men had appeared, greyer, or was it his imagination?

'Jason Berkley,' announced the first, 'you have completed Phase One and, coincidentally, achieved majority. By so much, the law is satisfied.' Immediately the second said, 'You will now be given an opportunity to respond to open society and to begin the productivity which will eventually repay society's investment. You will be sent to the metropolis of Edmonton, where you have been assigned a job as Electronics Design Engineer. This is a high-skill position, with accompanying high-credit deposits. After deductions against repayment of debt, you will have sufficient to rate a stretched ELS, and one has been rented for you.' The third man had leaned forward and said with a minute hint of warmth, 'Such an Efficiency Living Space denotes status in the world you are entering. Do not be misled. This is still a learning situation and the ledger is far from balanced.' He paused and watched the puzzled Jason. 'You are free, for the time being, to make your own way. Peace and unity be within you. Please wait outside.' Orest stepped forward as Jason left.

Now it was afternoon and he was looking forward with mixed feelings to his future. 'Sorry to keep you waiting,' Orest called as he entered the hall. He was carrying a case

identical to that at Jason's feet and a package under his arm. Smiling broadly, he handed the package to the tall young man, who unwrapped it with happy wonder. 'I notice a little fuzz, Jase,' Orest chuckled, 'and it might not go down well with the women.' It was a razor like Orest's and Jason's throat clogged as memories, good and bad, swept through his mind. The older man turned him towards the door as he slipped an AP Card into his hand. The heavy doors slid silently back, to some unseen bidding and they stepped together into spring sunlight. As Orest entered a robocar he waved and offered a last word of advice. 'Roll your sleeve up, Jase, and take a look. Work hard and know yourself best of all. See you.' With that he was gone, and Jason gazed at the metal plate in his tingling arm. Beneath its surface shimmered—INDEPENDENCE.

#### FOUR

EDMONTON should have seemed relatively small and uncomplicated, with a mere million inhabitants, yet Jason found his apprehensions had been at least partly justified. He had come in by monorail from Red Deer, near the school, and the trip had been pleasant until the last few minutes, when he'd watched the gap narrow between himself and the motorway stretching back to Calgary. The hairs had risen on the backs of his arms and neck, under his new swagger suit, as he watched northbound traffic beneath, moving nearly as fast as their own 200 kph. Even moving along the pedexpress to Leacock Manor, his new home, he felt vaguely uncomfortable, as if after all this time he should still be somewhere prowling the sub-levels. The lobby of the Manor was no help either. He'd been escorted to the office by a supercilious and disapproving manager, obviously put out at having to come and open to his ring.

Safe in his own ELS, he had looked about at the decor, in the same garish taste as that of the lobby and decided that no amount of fatalism could make him accept it. Changes would be made when he could afford them. Meanwhile, he

needed time to familiarise himself with the most basic routines. Orest had prepared him and yet he fumbled and hesitated over many little things. Using his AP Card, he dialled a menu, lingered over it, and chose his meal. He went to bed with a late newsfax and read every line—especially the ads.

Morning brought him early to the gates of Western Safety Electronics, Ltd., where the roboguard checked him through Security and took him to the office of J. T. Monihan, Design Manager. Jason's AP Card went into a slot by his desk scanner and a cassette into the other side. Without comment Monihan read carefully and completely till, with a grunt, he tossed Jason's AP Card back. Startled, Jason dropped it into an ashtray, where a cigar curled fragrant smoke upward. He jerked the card out, flushing, while the grey-haired, steely-eyed Monihan reached forward and retrieved his stogey. 'Damn things are indestructible,' he said in a deceptively mild voice. 'Don't suppose they told you that at Diamond Willow.' Jason reddened again, but the stocky, middle-aged man waved a casual hand. 'Seen 'em all,' he said. 'The EVR boys who haven't left their own homes since they started courses. Videotape for brains. The red-hot grad-schoolers, gonna turn our organisation upside down. And one or two like you . . . or at least from your school.' He looked sharply at Jason. 'Says here you're cleared to level three security. Pretty far for wet ears. Says, too, that you're really high-skill.' He paused, waiting for a reaction, and continued when he got none. 'Well, doesn't matter here anyway. Got great new designs to show me? Keep 'em. Everyone starts on the line. Know the plant, follow the system from start to finish and maybe someday you'll get your scriber back.'

He obviously expected a comeback and seemed almost disappointed when Jason merely nodded. 'All right, then,' he said as he butted the cigar. 'I'll give you the grand tour.' He moved with exceptional grace for one his shape and size. Jason stayed one step behind until Monihan turned and took his arm. 'Come on,' he growled, 'you're not with the ancient Royal Family.' They strode along in silence until

they reached the entrance to a huge room where rows of figures sat hunched over long benches. Down the centre of the first few, conveyor belts moved silently and in the background was a pleasant sound not quite like music. They stopped at the end of the first row and Monihan stabbed a stubby finger forward. 'Assembly line,' he said quietly. 'Bread and butter.' He picked up a partly-finished piece. 'Standard citizen's electronic lock. Frequency keyed. Made by the million and jimmied by the thousand.' They moved on. 'Luxury lock,' he intoned. 'Voice pattern keyed. Takes a multi-frequency scrambler to jimmy. Also takes multi-credits to purchase.' Jason had known only one Picker with the know-how and equipment to get past one of those.

Now they were at the end of a bench with no belt. Monihan reached past a woman intent on her work and picked up an oblong case, about one inch by a half, wafer thin. 'You're a micro-circuitry specialist. Attache case lock. Thumbprint keyed.' He gestured towards a glassed room where a roboguard prowled restlessly. 'Personal fitting.' There were similar items at the next benches, some clearly for vanity rather than security. A key in a diamond neck-cloth pin, a lock in a hot water button, for a safe beneath the basin. 'Some characters have more credits than brains, even today,' the manager quipped sarcastically.

'We also do priority AP Card locks,' he continued. 'Only two other firms have that clearance from the Continental Computer people. And you've heard of our ultra-special lock, for the AmeriCanadian Government. The one-of-a-kind with three keys, in Washington, Ottawa and Hemisphere Defence?' Jason hadn't. Monihan swung around and looked down the room. 'You've seen all you're cleared for,' he finished. 'This afternoon you start on the first belt and you do every operation in this room to my satisfaction before you set foot in my design section. It can take three months or three years, or you can drop your skill rating and push buttons. Welcome to Western.' He licked his lips wolfishly.

So began another succession of days. Jason worked quickly

through the assembly lines, more slowly in micro-circuitry. At home he studied, grudgingly doling credits for a leased scanner, until he was driven by loneliness to wander the malls of this new-old western city. Just under the two-month mark Monihan called him to the office again.

With a tinge of grumpy respect the manager walked Jason down the hall and into the design wing, showed him to a large cubicle and introduced him to several other men. 'You'll do touch-ups on final-draft layouts to start,' Monihan said. 'Draughtsmanship never came easy. And never question a design.' He stood in the doorway and threw a parting shot. 'We should never have brought those robo-picks in. Builds character to sweep up and empty baskets. See you in a year. Maybe.' He whistled as he paced briskly up the hall.

Again it was a good bit less than that, for Jason stuck doggedly to his work and mastered it. He hadn't been concerned with draughtsmanship at Diamond Willow, but there was a peculiar satisfaction in producing perfect layouts; pulling scattered unit diagrams into a comprehensive, compact whole. He became more than efficient: he was first-rate. And he made friends. Some of the loneliness disappeared as he sat chatting in the auteteria over lunch or coffee. He joined the Men's Athletic Club, minutes from the Manor, played squash and basketball with his new friends, even visited occasionally.

Perhaps it was their cramped standard ELS's that made him check one day, to learn with amazement how many credits he had on deposit. Or perhaps it was the people who eyed him distastefully in the lobby, sniffing at his plain swagger suit and conservative neckcloth. Mustering courage, he went shopping. He compromised not one whit once he had embarked on it, even though his tastes ran to a high credit range. He found that he enjoyed certain good wines, learning to choose them for particular dishes. And he nearly went on to the red when he slotted his AP Card for a complete multi-function homerec set. But it was worth it to have access to live music, cassettes, video, good books. Gone forever was the cheap scanner with its hookup to

limited local microfiles. He had the resources of a continent at his fingertips.

The affected, oily manager stopped him in the lobby one evening, beaming with delight. 'Mr. Berkley,' he called, 'I just wanted—that is—well.' He cleared his throat. 'When you first came you were, you know, painfully young and, er, crude. There were complaints from the other, uh, residents. I was on the verge of asking you to, ah, leave the Manor. To step down to a standard ELS someplace or, considering your credit rating, to move to one of the—Apartments—where you could be eccentric.' Noting Jason's growing irritation, he forced a large, false smile. 'What I'm trying to say is, it's so good to see you finally living up to your credits, Mr. Berkley,' and with a nervous laugh he slithered away across the fluorescent blue carpet. Jason stood for a moment cooling down and then with a flash of insight he saw that the obnoxious manager was socially correct. More than that, he was correct for the Jason who was emerging more fully every day. His indulgences were a sort of necessity, a means to promote growth. His clothes, his pleasures were extensions of himself. That they met with social approval was convenient, but that they were naturally part of him was all-important.

Brusquely as ever, Monihan came for him one Friday in early summer and moved him again. 'Re-opening an old line,' he explained. 'Computer blocks. Used to install them in multi-purpose remotes. The higher your clearance, the more blocks your key opened. Got too complicated,' he added, 'and they went to source blocks. Another company.' He leaned back, fished out a cigar, and lit up. 'Today, source blocks literally change a hundred times a day. Suppose you add a wrinkle: a micro-adjust key. Just before you use the remote, you match your key to a servo that adjusts it to everything in your clearance level.' He looked quizzically at Jason, who said, 'It should work. But then, computers aren't my special area.' Monihan snorted. 'Forget computers and think keys. Besides, you won't be doing the creative work. I have three other brains for that,' he grunted. 'You're going to review the old line and see how much

of it you can shrink or discard, then pass on the essence.'

So it went, and so it continued through the summer and on into winter. He got similar jobs and stuck with each until he completed it to his own and Monihan's satisfaction. There were times when he pictured, in a flash of inspiration, the finished product which supposed was far beyond his present abilities, but he remained observant and recognised with humility that the men above him arrived in their own ways at his conclusions. Sometimes they produced a better answer, though once or twice he knew that his design would be more effective. And it was while they were huddled over the final drawings of one such product that he met Ruth Hayworth.

Intent on schematics, he had become aware that the others were silent and over the end of the desk his glance dropped to a small, elegant sandal. It was like stop-action video: his gaze moved in jumps up the sheer, skin-tight aquapants, from trim calves to tapered thighs, to flaring hips; skittered over rounds of straining, translucent mesh, and was captured by a pair of amused, jade-green eyes. He stood up jerkily, reddening as he pushed down his rolled sleeves, knowing that she had already glimpsed the plate in his arm. Yet, aside from a warm, bright smile when they were introduced, Ruth had paid him no special attention. Instead, she unrolled the sheets of cover drawings she had brought and they had all gathered over the desk to admire the 'finished' product. She was good, definitely. It was all exactly as the unit ought to look, yet somehow a little more impressive, more promising, displayed at just the right angle to flatter its lines. Jason joined in the general praise.

It was not, Jason realised later, accident that had brought her to his table in the autoteria a few weeks after. As before, her outfit was both daring and severe, revealing in contour, concealing in the appropriate places. It had the simplicity of elite credits. She was no older than he and still he stammered and moved clumsily, hating himself for his nervousness. Yet she seemed not to notice and after a while he had grown more assured. Lunch was over all too soon

and he was back at work, bemused by it all and slow to think his way into the material in front of him. A few luncheons later he was amazed to hear himself suggest that they take in a wraparound. It had somehow, he also realised later, been the only time he was to suggest what they might do together.

Ruth Hayworth moved in a world which Jason had only dimly perceived. Far beyond the edge of his own interests. Now, nevertheless, he was slowly but surely drawn into it. 'Pick me up at 19:00,' she said. 'We'll go to the big art bustout.' And they went, mingling with the zany too-rich and noisily too-poor patrons and artists. Ruth introduced him to some, pointedly avoided others and carried on a constant chatter of criticism, background, information about the pieces, 'the people, the new movement. 'You've got to hear the Troncon programme tonight,' she told him, and he sat through an evening of devastating, ear-destroying symphony, listening as she explained the theory of sub- and supersonic underlay during intermission. Bit by bit, despite the hectic quality of their dates, a clear picture of the girl emerged. She was the daughter of a VP in Tundra Oil, an extremely high-credit man, and an indulgent mother who supplied anything she could put on the Family AP. With that, plus her own skill-credit rating, the girl lived as well as anyone could in a prairie province town. She had everything; talent, brains, beauty and credits; and she became intent upon using them all for Jason.

Not that she was the only woman in Jason's life. There was also Michelle Maigret—May-grey—as she tartly informed him the day they first crossed swords. She was, Jason supposed, one of the inconveniences of his creeping success at Western Safety. At twenty, he was now assigned by Monihan to a Junior Design Engineer, at last allowed to work out the occasional innovation under the watchful eye of Stan Bolton. And Miss Maigret. Stan could have warned him, but it appeared that the older man was more than a little afraid of her himself. Jason had taken considerable trouble with his latest project, introducing a clever little scrambler circuit of which he was duly proud. Then, with

no preamble, Michelle Maigret had stalked in, dropped the circuit drawing on his desk, X-ed a corner and said coldly, 'Drop it.'

It had not been exactly delicate, and he responded with vigour. She read him his lesson bluntly and dispassionately. 'As cost analyst for this project, I say it goes. Oh, yes,' she agreed, 'it's beautiful. Ingenious. And it adds credits that push our sales extrapolations below margin.' She won. She won several other arguments with Jason, but then no one could remember her ever having lost. It seemed incongruous that she, perhaps five years older than Jason, could thoroughly cow men twice her age, yet in her crisp, businesslike way she ticked off the hard facts and they wilted. Monihan was the only man to whom she showed deference and he treated her with a manner of near-equality.

Jason learned to accept her judgments and found, eventually, that she was rather attractive beneath the gruff exterior. He sensed that when she was particularly sharp with him she was using some sort of over-compensation and gradually he decided that she recognised a potential in him but that she was patterning herself somewhat after Monihan, who wouldn't be caught dead giving a compliment. Those deep brown eyes gave nothing away, the small, full body inclined not an iota further towards him, but there was that slight extra edge to her voice. He was, he reflected much later, still naïve enough then to think he had figured it all out.

Meanwhile, his leisure time was more and more taken over by Ruth the energetic, Ruth the constant guide and mentor, who seemed never to tire of taking him to new, supposedly exotic places. She gave him her time, her knowledge, her friends and interests, and he marvelled at how selfless she was. She never allowed him to choose the places they went or to use his credits, never saw the inside of his ELS, though they spent hours in hers. It was as if she were determined to present him with a complete new life.

The culmination was, as such things so often are, a combination of sweet and bitter, of exultation and despair. In-

the crisp autumn air, touched with a trace of woodsmoke, they explored rocky little paths above the picturesque hunting lodge which her father seldom used. She delighted in showing him all the secret gadgets in and around the cabin, things which clashed with the raw majesty of the great silent peaks above them. Jason had felt his heart wrench at the first sight of those mountains, remembering his final rebellion in that other cabin far to the south. But he let Ruth go on, filled with the pleasure of giving, all through the short day and into the quick-dropping chill of twilight. Then, in the cheerful flicker of the great stone fireplace, she had given him the last thing of all. Slipping softly from his arms, she had stood before the fire, eyes glowing, full lips trembling and slowly loosened the belt of her long robe. She stood naked, breathtakingly beautiful in the golden light, and then came to him, arms open, heart pounding.

Jason had been surprised at the total assurance of his body, at the dual quality of participation and distant observation in his mind. It was manhood triumphant, and yet, in his absolute innocence, he knew that something was lacking. The woman who embraced him, enfolded him, was giving a great gift, but he, in return, was allowed to give nothing. Nothing but a brief spasm of his own future, doomed he was certain to quick extinction. In the fading light of the dying fire they lay together and she traced the letters of the plate in his arm with a fingertip so light that there was barely a tingle. 'Poor Jason,' she said. 'The things they must have taken from you. I want so much to make it up.' The words and their real meaning kept repeating in Jason's mind through the night, through their periods of desire and exhaustion. At base, though Ruth could never understand it, was a patronising, selfish motive. If she weren't so thoroughly in love with life, Jason thought hollowly, she might have made a magnificent early martyr. A great, swollen red moon poured pale light into their bedroom and with sorrow as old as Adam's he stroked the sleeping girl's blonde hair, her face puffy with the satiation that comes of righteous giving.

The rest of their weekend was a mixture of impulsive sorties into the glorious colours of autumn and periods of passion in the artificially rustic cabin, but it was always the same. Jason became a practised lover, still awed by the sexual responses of his body but chafed by the repetition of Ruth's giving without awareness of his isolation. At the centre of their relationship was an empty space and Jason intuitively grasped that it was an extension of the similar emptiness in Ruth's own life. They returned by robotflit on Monday evening, Jason still repelled by any suggestion of using the motorway, and he acknowledged a sense of relief.

Oh, they continued their intimacies. Well into the winter months they would end a frantic evening of 'culture' twined in the age-old position, snug in the confines of Ruth's ELS. Yet Ruth herself slowly tired of the ritual and became a bit angry with herself when she dimly recognised that she could go no further with Jason. There was no more she could give now than what she had offered so unselfishly so many times. What else she expected she couldn't explain, but she saw that whatever it was would never come. Jason was tender, Jason was grateful, but Jason was still—Jason. By January they were meeting less often, by February not at all. There was no scene, no formal parting, only a drawing apart till they smiled and talked vacantly when they shared a table in the autoteria.

Jason sorted out and made part of his character the intangible things he learned from it. There were now, however, other problems which kept him occupied. He was still assistant to Stan Bolton, though he knew he had in fact outgrown the job. Bolton was affable, but there was a tension in the man that belied his surface assurance. Strangely enough, it was not during the nerve-wracking initial stages of a project that he tightened up. It was after the breakthrough that Stan ('Call me Stan, Jase,' he had said heartily) became jumpy, almost secretive. Jason had discounted his suspicions until he could no longer thrust away what was clearly evident. Bolton was working at his absolute limit. He would never be more than a Junior Engineer, was

perhaps not suited for that level, since one cannot keep working indefinitely at one's limit. Yet he survived and how he did it was beyond Jason. Until the day in early March when Jason got the answer.

They had grappled for weeks with a tricky little problem, an elusive matter of placing an unshielded modulator amid raucous, indiscriminate circuits crammed into a ring face. Diplomatic Corps. Designed to open locks that supposedly didn't exist. So said Monihan, who thus obliquely informed Jason that at least his security clearance had gone up. It had really been his baby, as the micro-circuit specialist, and he had stayed long nights alone with Stan, seeking the solution. When it came it was perversely simple. A red-eyed Jason, rubbing the sweaty stubble on his jaw, had wandered home cursing himself for not seeing the answer long before, though in the morning he gained a just pride in the completed diagram.

Some days later Monihan appeared in the doorway. Michelle Maigret behind him, and held up the binder. 'Great job, Stan,' he said with rare praise. 'You've got a classic here. Should be good for a few juicy contracts.' He placed a hand on Stan's shoulder and added, 'Especially that modulator chamber. A stroke of genuine genius.' Jason had looked up, expectant. Stan had flushed uncomfortably, muttered something trivial like 'always willing to please', and launched into speculation about the present project. He looked at Monihan and Michelle, at sketches, anywhere but at Jason, who sat with a cold feeling growing in the pit of his stomach. He sat, and realised that Stan was waiting in agony for him to claim his due. To Jason's acute eye, the Junior Engineer was so wound up that his reaction would be totally unpredictable and with mixed feelings of disgust and self-recrimination he held his tongue.

What to do about it? He knew now why he was still assistant to Stan. Over the next few days and nights he puzzled it over, seizing and discarding notion after notion. From sick disgust he swung to savage anger, then to weak helplessness. He didn't know what might happen when he and Stan came face to face, but Stan, with guilty cunning,

avoided the confrontation. He took a combined holiday and tour of parts plants to the south, leaving abruptly with his family and with Monihan's blessing. Jason, in the meantime, remained to do a mass of routine items, circle round and round his problem and end without a definite course of action.

Fortunately, it was during this time of torment that Michelle Maigret slipped casually, informally into his life. As Ruth had done, ages ago it seemed, she sat with him one day in the autoteria and they chatted over lunch. She had begun with a trifle of shop talk and then quite deliberately dropped it. Speaking of other things, politics, books, people, she had become warm and animated, creating an illusion of decreasing stature, shrinking authority. No! That was wrong, Jason decided after their third or fourth meeting. The illusion was that of the stern, formidable woman of statistics and efficiency, a cultivated posture calculated to ensure acceptance in a largely male environment. At twenty-six or seven she had made herself as indispensable as anyone could be in this society, where jobs for skill-ratings were all too scarce and mindless button-pushers abounded. Michelle was clearly, very clearly, an intelligent and vital human being, with her own special desires and needs.

April first had nearly passed when Jason, struck by the date on a scanner memo, tidied up his desk a few minutes early and on rash impulse stuck his head in at her door. 'It's my birthday, Michelle,' he explained. 'Would you like to help me celebrate?' He felt awkward as he had not been in years, but she smiled and said with genuine pleasure, 'Why I'd love to.'

There was one restaurant where Jason had spent pleasant evenings alone, lingering over the luxury of good food, good surroundings and good service. He and Michelle sat long after they had finished eating, free of frenzied Musak or impatient queues. In the real candlelight her eyes were huge and dark, the small face like cool ivory against the background of lush tapestries. Jason had the strange sensation that his very spirit was expanding as they talked.

Nothing of consequence was said, but yet it was deeply significant that he spoke of things he had painfully reasoned out, that she accepted them, matched them with her own, and they traded private things, the dreams which were themselves.

On the fragile span of the high-level walkway they paused, silent, and looked far down into the distant cacaphony of the city, all the way to the rushing, disquieting blur of light ribboning the motorway and Jason turned and gently drew up the tall stylish collar of her cloak, hiding the tiny ears and short black hair. At twenty-one, he was beginning to grasp the true meaning of an old phrase: 'Peace within us.'

They lay lazily in an alder-fringed recess on the bluff of the North Saskatchewan, welcoming the uncommon heat of a June day and looked across the alluvial beige of the swift river, the rich brown ploughed land, towards the hazy outline of the city. This was the first time that she had suggested a place and she had offered it shyly, partly because she didn't want to impose and partly, he understood, because it was a special, private place which she had found. The path had been indistinguishable from below and as they stood breathless on the summit she had waited in girlish embarrassment for his approval. Then they had settled to talk, chins propped on hands, stretched out on his huge, shaggy blanket in the comfort of one another's company.

Later they were quiet, pensive, and Michelle turned to gaze into Jason's eyes. Still without speaking she pushed herself up and knelt, taking his hand in both of hers. He rolled on to his knees and cupped his free hand behind her head, drawing her forward to kiss her tenderly, then with increasing strength and quickening breath. She raised his hand in hers to her throat, held it there between her palms almost in an attitude of prayer and then dropped her arms to her sides. As if entranced, he slowly slipped the seal of her tunic downward, all the way to the hem and the short garment parted slightly. He kissed her again, a long reassuring touch, and softly put his hands on her shoulders,

pushing the tunic out and back, down her arms and away. Through the new leaves of the alders, dappled sunlight wove a soft pattern across her small, full breasts, and he bent to rest his cheek against them as she sank slowly back on to the blanket. She lay beside him barely moving, throat pulsing, gazing mutely as he traced the line of her curving hip, sliding filmy cloth under his hand. And at last, with a breaking storm of passion she drew him to her, crying out gently in her need.

They shared. They shared their need, their giving, the secrets of body and soul. And within Jason something came together with an all-but-audible sound. He was whole, complete at last, but aware as never before of his humanity, of Michelle's wonderful vulnerable humanity. He could never again deliberately isolate himself, for though he had mastered himself he understood the utter need of one human being for another.

'Jase,' Michelle murmured later, 'thank you. Thank you for being you, and helping me to be myself.' And she hugged him fiercely amid mixed laughter and tears.

## FIVE

DEPENDENCE—Independence. Later in the night, back in his ELS, he weighed the two and absorbed the fact that too few people ever learn. You can't have one without the other, he concluded, as he padded restlessly through the cramped space. Funny, but now he could search his thoughts and find no animosity for Stan Bolton, only sadness. It wasn't a matter of his own wrongs any more. What concerned him was a feeling of frustration that there was no way to help the older man. Stan was trapped in a strange way, not simply by a job that demanded too much, but by the inability to rid himself of guilt. Jason had let it pass, and now there was nothing that he could do to help. Perhaps Stan had been beyond that before they met, but Jason would have given the world to be able to do something for him.

It was strange, too, that within days of that miraculous

afternoon with Michelle, Monihan had called him to his office, silently handing him a priority cassette and motioning him to the scanner at his desk. Jason had read with shocked disbelief, looking up to find Monihan watching him with haunted eyes.

'You know?' Jason asked.

'I can guess,' Monihan answered, rubbing his arm with a peculiar gesture. 'You've been ordered back to Diamond Willow.' Jason nodded, pondering the curt message that told him simply to pack, terminate present affairs and report this same evening.

The manager crossed to him and clasped his hand. 'You've come a long way in three years,' he said. 'We've watched you develop and you've got that rare quality to make it to the top. Things like the ring face modulator.' A bitter smile flickered at his lips and was gone, as Jason started. 'We want you,' he said firmly. 'Remember that.' He took Jason's elbow and led him to the door. 'Now say your goodbyes, and get the blazes out of here.' The door closed hard as Jason moved off down the hall.

Michelle made it easier than he had expected and he calmly added the fact that she already knew to those other bits that were coming together. Monihan was a wise, observant man, all in all. But she also made it clear that what was between them, the supple bond of sharing and understanding, had nothing whatsoever to do with the manager. For observer, he was, not manipulator. Everything Jason had gained was completely of his own fashioning.

'I'm going to Montreal soon,' Michelle said. 'Not everyone in this organisation is bilingual.' She smiled and gave him a long kiss, held him around the waist and leaned back to look at him. 'Scribe the odd line? No cassettes. And life is a lot longer than we think.' Their farewell was neutral, neither final nor promising.

He stood in the same indoctrination chamber again and this time the three men were positively ageing. The first addressed him in a flat, dispassionate voice. 'Jason Berkley, you have now reached the end of Phase Two. You have become capable of understanding the nature of your offence

2

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CANARY

*by*

DAN MORGAN

*A built-in survival factor could be a useful asset in a human being, not only to save his own life but as a national early warning system against ICBMs. He might even outsmart the computers . . .*



## CANARY

IT was more than a scream. It was the howl of a damned soul falling for ever into the bottomless pit, a cry for help, a wail of despair, a whimper, a sob—all of these at the same time. I rolled off the bed, already awake as my feet touched the hard coolness of the floor, adrenalin flushing into my system with the recognition that this was the real thing.

Unless someone up at Central was being extra clever and trying just one more dry run . . .

I zipped up the front of the lightweight one-piece suit, stepped into some slippers and dashed from the room. I had left my watch on the bedside table and the corridor I was moving along was brightly lit twenty-four hours a day, so there was no way of telling what time it was. I had the feeling that I had only been asleep for about half an hour, but a quick glance at the wall clock as I burst into the Monitor Room told me that it was almost 3 a.m.

'What kept you?' said Carter.

'Funny, funny,' I said. That kind of pseudo-joke was only one of the reasons why I didn't like him. I looked at the board. Three quarters of the dials were way up in the red and the encephalo-screens were oscillating wildly. I felt a trickle of ice down my spine. Whatever it was, this was a big one—the biggest yet.

'Why didn't you call me earlier?' I said. 'You must have seen this building up.'

He shook his head. 'Didn't happen that way. Everything was quiet. He was jogging along comfortably in his second REM period, pulse, respiration, Alpha rhythms quite normal—then whammo! the shit hit the fan, if you'll pardon the expression, Captain ma'am. That was maybe seven seconds ago.'

'Seven?'

'Could be ten. I was just going to call you.' He lounged

back in his chair, looking at me with a twisted half-grin on his dark, narrow face. I was suddenly reminded that the zipper suit fitted me like a second skin.

'It doesn't matter. I got it anyway,' I said, feeling his eyes crawling over my breasts like brown slugs.

'Bully for you, Captain ma'am. What now?'

I was holding myself back from the squashy ordure of his sub-vocal level. I didn't want to get involved with that, particularly at this time. Sometimes I thought that he deliberately channelled his thoughts that way in the hope that I would read him. Perhaps the idea of me doing so gave him some sort of twisted thrill. His lechery was too genuine to be a mere defence mechanism and he had a reputation around the site for being hell with the women. It could be that the idea of bedding someone like me excited him. After all, there had been a lot of rumours about us and a number of those 'Did you hear about the...?' type dirty jokes of the kind that fed speculation.

Tony wasn't like that, thank God! That much I knew. Things hadn't been easy for us one way or another, but at least we had trust and understanding. They weren't happy about our relationship at Psi Central, but even Goldberg didn't dare interfere directly with that particular freedom. Tony was in a Commando group down in the Western sector of Antarctica, and his six months would be up in just three days. Surely nothing could go wrong now. That would be too cruel after all the waiting.

Tony was a normal, or Thickhead, if you prefer the current Central slang—we had our equivalents of Carter and our own in-jokes. All that old business about 'to know all is to forgive all' and the equating of the complete Psi-man with some kind of godlike wisdom was all very well back in the early, speculative days; but the truth of the matter is that when you take a human being and add one of the Psi talents you don't get a god at all. Psi's are just human beings, with all the normal human failings, plus a few others that come along with the burden of possessing a talent. Tony didn't carry that burden. He was just an intelligent, but uncomplicated guy with a build that made him

the focus of attention on any beach, and a loving nature.

I stared back at Carter hard. 'You know the drill. We've been through it often enough, surely?'

'You want me to call Strategic Command at this hour of the morning?'

'What the hell has the hour got to do with it?' I snapped. 'You think they work nine to five?'

He shrugged, his insolent eyes still pawing me. 'All right, Captain ma'am, if you say so. But there doesn't seem much point in ...'

'Call them and tell them that we've had a category AA Emergency reaction here. I shall need a complete report on current and extrapolated probabilities.'

I was looking at the bottom monitor screen. It showed Charlie Noone's sweating, frightened face. He was sitting up on the edge of the bed, his head cradled in his hands. His whole body was shaking.

'You wouldn't rather talk to them yourself?' Carter said, reaching for the phone switch.

'I'll do that later, when I've had a chance to examine Charlie.'

'You're going in there now?'

'Naturally.'

He shook his head, a sly grin creeping back on to his face. 'Boy! Sometimes I wish I was Charlie Noone.'

'You wouldn't have the guts.'

'You can say that again.' He pointed to the paunchy figure in the baggy pyjama suit who had just risen to his feet and was walking shakily across towards the wash basin trailing a mess of multi-coloured monitoring leads behind him. 'He's so goddamned clever, how come he hasn't got the sense to keep himself in better shape?'

'Worry about your own shape,' I said sharply.

'I'd rather worry about yours, Captain ma'am.'

Damn him! If there was such a thing as a Psi talent for getting under your skin, then Carter had it. Thank God I would be rid of him for good in three days' time. I turned away quickly to avoid giving him the satisfaction of seeing the flush that had risen to my cheeks and hurried out.

Charlie Noone looked up as I entered the room and even before I went into his sub-vocal level I could sense the welcome in those trusting, washed out grey eyes. He was sitting on the edge of the bed still, bottle shoulders slumped forward. Carter was right about one thing. He looked a mess. In fact, he looked worse than he really was, because over the past six months we had been able to regulate his diet, pushing his weight down slightly by the use of hypotropics and lowering the urea content of his blood. For a man of his age and constitution Charlie was in pretty good condition. He had to be. A sudden fatal illness on his part would invalidate the entire project, because at the present time we didn't have anybody else quite like Charlie.

I went in. It was the welcome of his eyes all over again, but plus all the warmth I had come to expect from Charlie. Warmth, not Carter's rutting heat. I had never detected even a hint of sexual imagery in my communications with Charlie. From my point of view it was a highly satisfactory working relationship, so uncomplicated that I had accepted it gratefully and not probed further. If he wanted to look on me as a sort of sister- or mother-substitute, then that was all right by me. I didn't need to prove anything to myself about my attractiveness. Tony was all the man I needed.

'How was it, Charlie?' I asked.

I sensed a resurgence of fear and darkness at the borders of his first level as he said: 'Bad, Jan, bad ... Worse than that time in Seattle.'

I nodded sympathetically. A hundred and fifty people had died in Seattle. I hated to push it further, but if I could get more details it just might make the work of synthesis easier. 'Can you tell me anything specific about the dream sequence leading up to the trauma?' I asked.

Something black and horrible bounced clear up from his third level—and faded again before I could get a fix on it. Nightmare and madness lived down there and I wasn't about to risk my sanity by trying to follow it back to its source.

Charlie was trying to co-operate. He always did. His pudgy features screwed up with the effort of trying to re-

member. But I knew what the answer was going to be before he replied.

'I'm sorry, Jan. Something like this happens, it seems to blank out the whole surrounding area.'

'I know, Charlie,' I nodded. 'We'll just have to wait and see if the computer gives us a clue.'

He eased his sweat-soaked pyjama jacket where it was binding under his armpit. 'It was a bad one, I'm sure of that.'

'If that's so it's bound to show up in the probability assessments.'

'You think they'll be able to do something about it?' he asked anxiously.

'That's the object of the exercise,' I said, with a phoney kind of cheerfulness. 'Look, why don't you disconnect that junk and have yourself a shower and change? You've done your job for tonight.'

'You're sure it will be all right?'

'If anybody complains, refer them to me,' I said. He was such a nice little guy, and he tried so hard.

'Thanks, Jan, you're very good to me.'

I pulled out of his first level. There's something kind of embarrassing about seeing an image of yourself dressed in white robes and haloed like one of those medieval saints. But even that's a hell of a lot more pleasant than the kind of thing you find crawling about in the mind of someone like Carter.

'Don't worry, Charlie,' I said. 'You just make yourself comfortable and leave the rest to us. Good night.'

'You'll call in the morning?' he said anxiously.

'Sure I will,' I said, smiling. 'Don't you worry about a thing.' *Not even the end of the world*, qualified the grinning death's head that had been floating around in my mind ever since that moment of wakening.

The first name of the death's head was Escalation and his second Overkill. There had been a war going on somewhere in the world for the past thirty years; Korea, Vietnam, Pakistan, Palestine and now Antarctica. Localised wars that acted as a kind of safety valve in relieving the pressure be-

tween East and West and in which only 'conventional' weapons were used. I had never been able to appreciate that nice semantic implication of the word 'conventional' with its intended impression that it was so much more pleasant to be torn limb from limb by a good old-fashioned chemical explosive than one of those nasty nuclear devices. I had appreciated it even less over the last six months.

There was no draft these days. Wars were fought by volunteers and there was never any shortage. For one thing, there are always some people around who need and actively seek risk and violence. Then there is the Population Control Act, which says that if a couple want to have children, one of them—usually the man—has to be prepared to put his own life at risk by serving six months in the combat area for each proposed child. The idea might have sounded harsh to some of those cosy little people back in the middle of the century who were busy breeding themselves out of existence, but looked at from a purely practical point of view there was a lot to recommend it. Apart from being eugenically sound, it did away completely with accidental parenthood and its attendant evils. Only a man who had the guts to go out and fight for his child ever got to be a father. And if he didn't come back—well, that was the law of averages ... At least that was the way it looked in the abstract. Tony risking his life that way was another thing, as I'd found out.

The trouble with this safety valve business was that there was no guarantee. The ICBMs were still maintained in a state of readiness in their silos and submarines, backed by stocks of overkill sufficient to obliterate the human race a hundred times. Nobody but a madman would ever dare start an atomic war, but while the weapons existed there was always a chance. Conventional war or not, feelings ran high periodically on both sides. We had our extremists, a growing minority group who were agitating quite seriously for what they called a final settlement. They maintained that the government should stop 'pussy-footing around and go for broke, by making an all-out surprise atomic attack against the other side.

The other side had their extremists too, making the same kind of demands. I suppose their people were as careful as ours about trying to screen out that kind of nut from any area where he might have the chance of starting the atomic Armageddon, but you couldn't always tell just who was an extremist. You read all the time about these cases where some factory worker suddenly blows his top and chops up his wife and kids with a meat cleaver. The neighbours usually get together afterwards and talk it over, some of them expressing frank astonishment that such a mild little man should suddenly up and do such a thing. Then there are others who are wise after the event, sniggering into their beards and saying things like: 'I always did think there was something odd about old so-and-so.'

The difficulty about an atomic war was that if the human race was to survive we had to be wise before the event and prevent it happening. This kind of wisdom entailed a constant monitoring and evaluation of a huge mass of data, including projected plans of both sides, intelligence reports, states of weaponry and political climate, the current Antarctica situation and a thousand other constantly changing factors. This stuff was all fed into the computer at Strategic Command, a monster about the size of a four storey building which produced a continual stream of extrapolations and probability ratings on the subject of the likelihood of atomic war.

So far the computer had always been right, but that didn't prove that it was always going to be so in the future. That is why when Charlie Noone turned up it was the obvious move to put him in a position where he could act as a double check on the computer. It was the old 'Who shall guard the guardians' principle. That's not to suggest that Charlie was smarter than the computer, but no one had yet figured a way of duplicating his kind of talent through the use of electronic gadgetry.

The words 'turned up' don't exactly convey the complicated process through which Charlie came to be sleeping in that monitored room with a mass of electrodes taped to various parts of his body. Back at Psi Central there's a

whole department devoted to the task of finding people with Psi talents. Most of the time they're just sifting through a mass of hearsay and conjecture. After all, the majority of people who have a talent know about it and have already made up their minds whether they want to get involved in the business of developing it further.

It's surprising the number who *don't*. There's a strong conservative streak in most human beings that makes them dread the idea of being 'different' in any way, so a lot of them go to great pains to conceal any Psi ability and become 'Sleepers' whose talents may or may not come out in the next generation. Well, that's their privilege, I suppose, but the way I see it they're missing an awful lot. They're like birds with functional wings who have decided for some reason that flying is dangerous and opted for an earthbound existence. Not that being a Psi is always that pleasant. Obviously there are some penalties and obligations implied in using an extra sense, but surely anything is better than being an ostrich?

Very occasionally the Search Department pans out a piece of pure gold like Charlie Noone. They got on to him first through a newspaper story, but they weren't the only ones interested. The way the police had it, Charlie was either a statistical freak or a mass murderer and the second alternative would have suited them much better, because they were looking for somewhere to peg the blame for three of the worst air crashes in a decade. The odds against what happened to Charlie must have been in the billions. As a travelling rep for a publishing firm he covered a lot of miles and he usually travelled by air. He had been booked on each of the three crashed planes and each time he had cancelled out at the last moment. The newspapers love those lucky survivor stories. 'Mrs Culpeper was forced to cancel her reservation because of the illness of her pet poodle. Interviewed at her home this morning, holding the little dog in her arms, she said tearfully: "I owe my escape to Binkie, bless him! Poor little darling, I'll never leave him again."'

Charlie Noone didn't have a pet dog. He didn't even have

a wife. She had left him some five years previously and was now living somewhere in California with a Polish gas station attendant. From what I was able to gather the marriage never really got off the ground in the first instance and although my sympathies were naturally with Charlie, I could see that his temperament was probably largely responsible. He was reasonably good at his job, capable of generating the kind of surface friendliness one expects to find in a salesman; but once I dug beneath that veneer I realised with something of a shock that he was a natural introvert, a solitary who seemed to be incapable of conducting any really intimate relationship with another human being. This disability probably stemmed from his childhood background; life with his bitch of a mother, a divorcee to whom he was both a liability and a burden. She married three times subsequently, on each occasion to men with whom Charlie found himself on terms of either indifference or downright hostility.

At the age of thirty-five he was a fat man with a nervous laugh; a compulsive eater with a fund of dirty stories and a taste for deliberately casual relationships with ten-dollar whores, whom he never patronised a second time for fear of developing some kind of emotional dependency. It was an unsatisfactory, sterile life—but it was the only one he had, and as such it was very dear to him. Along with—or because of—everything else he was also a screaming hypochondriac, capable of escalating the slightest touch of indigestion into severe angina, or a mild cough into terminal lung cancer. He was a mass of psychosomatic symptoms which repeated themselves in an endless kaleidoscope of permutations for the amazement of any diagnostician who was prepared to take his complaints seriously.

The way the police saw it was that Charlie's miraculous escapes from three air disasters in under a year could not possibly be coincidental. They were right of course, but they never even considered the true reason. They were too preoccupied with the alternative theories that he was either (A) working some kind of insurance racket, or (B) he was operating some particularly ruthless murder by contract

business, in which he was prepared to kill a hundred or more people in order to nail his victim. They investigated his life inside and out searching for some kind of lead that would fit in with either of these theories, but they turned up nothing but a row of negatives. Noone was a man without real friends, or enemies for that matter—most of the time he didn't even register on people, and that was the way he himself preferred it. The police were still trying to find props to support their circumstantial evidence when our people intervened and offered Charlie a way out.

Or rather a *way in*—because once he was involved with Psi Central it was highly unlikely that he would ever get out again if the Search Department guess that he was a true Pre-Cog proved correct. As usual Goldberg was all ready and waiting with a scheme to utilise his talent before its existence was fully verified. In the old days of coal-mining, before there were any such things as efficient gas detection devices, they used to take canaries down below. The gas tolerance of the little cage birds was so low that when a build-up started the canary would die first, acting as an alarm that gave the human beings a chance to escape. And that was how Goldberg's bright idea came to be christened Operation Canary.

Charlie's talent, like all really strong Psi gifts, was basically a survival mechanism and largely involuntary into the bargain. It happens all the time. Take a latent Teleport and try to talk him into giving you a demonstration. Ninety-nine per cent of the time you'll just be wasting your breath. Nothing happens. On the other hand, put him in an enclosed area and pitch a live grenade in beside him. Then you'll get your demonstration *toute suite*. The only trouble with the method is that then you've got to find him and depending on his ability he may be anywhere from a hundred metres to a thousand kilometres away. And when you do find him again he may not be very keen on making your acquaintance again, even when you try to explain to him that the 'live' grenade really *wasn't*. After all, even Psi Central can't go splattering latent Teleports over the landscape with reckless abandon.

Charlie's talent was a similar kind of survival mechanism. The idea that the human mind is capable of doing a certain amount of time travelling during sleep was first suggested a long time ago. After all, people have been having pre-cognitive dreams of one kind or another as far back as human records go. Charlie's mind had this ability to explore a probability loop until it came up against the blankness of a not-Charlie situation which indicated his own death. The traumatic reaction to this experience immediately bounced him back to wakefulness and the present time, enabling him to make a decision before the nodal point was reached, avoiding the probability pattern which had led to his death in the dream—thus allowing him to progress in reality along another sequence of events which resulted in his survival. All of which is a rather complicated way of saying that in matters that involved his own survival Charlie had the ability to foretell the future. Whether or not he was actually *changing* the future is an argument I don't intend to get involved in at this time, but it seems to me that the not-Charlie situation he banged up against in those dreams was a high-probability future which faded into non-existence when he decided not to go on any of those doomed planes. The people who died in those disasters had no choice, but Charlie did and he made the right decision ... three times.

The first part of Operation Canary was the task of sensitising Charlie to the concept of atomic warfare. This was done by a process of education and conditioning, making all the strategic and statistical information stored in the computer available to him, so that he eventually possessed a more comprehensive knowledge of the global situation than any other human being alive. And, most important, he was given convincing figures which proved beyond any reasonable doubt that in the event of atomic war breaking out Operation Canary was situated in the prime target area, with a probability of less than 0.01 per cent of surviving the first hour. In other words, in Charlie terms: Atomic War = No-Charlie Situation.

To check that he had been properly sensitised there were

three dry runs in which Strategic Command supplied him with false information on proposed developments that were high probabilities to produce escalation. That was a nerve-wracking time for me, because my close association with Charlie made it necessary that I should not be told that the information was false. The whole thing was a variation on the grenade method of testing a Teleport of course and Charlie reacted just as Goldberg had hoped by producing a not-Charlie dream every time.

The real difference between these tests and the grenade method was that Charlie was not told afterwards that they had been merely tests. Goldberg believed, and I was inclined to agree with him, that if Charlie were told that he had been deliberately fed with false information it might make him suspect the validity of perfectly true information in the future, and thus impair his efficiency. So Charlie went on believing what he was told and remained convinced that on three occasions he had saved the human race—and Charlie Noone of course—from atomic disaster.

And tonight? I had no way of knowing yet whether or not somebody somewhere had already made that apparently unimportant statement or action which would send the world careering down the probability loop that had kicked Charlie sweating and screaming out of his dream. According to previous experience the nodal point should come within forty-eight hours, so Strategic Command had that much time to make the changes in planning and disposition which would drain off the tension that was building up and lower the chances of disaster to a reasonable level. Of course there was always the possibility that they might miss some important but concealed factor and fail. That wasn't my responsibility, thank God. My job was to take care of Charlie—and hope that the end of the world didn't come before Tony arrived back in three day's time.

I don't know why I was surprised to see Goldberg standing there in the Monitor Room when I arrived back. As far as I knew he must have been at Psi Central, a clear hundred and fifty kilometres from Operation Canary when the

emergency alarm came through. And now, less than a quarter of an hour later, there he was facing me. Maybe it's because I only have *Tp* myself, but the 'now-you-see-it—now-you-don't' aspect of Teleportation always throws me. This, and the combination of Goldberg's personality, perhaps.

He was a spare man, with a shock of grey hair and a little white beard like a Scotch terrier. Small, alert and poised, with very pale blue eyes and a clipped way of talking.

'Well?' Those eyes raked me up and down, demanding information.

'Tell me one thing first,' I said. 'Is this another dry run, or the real thing?'

'Jesus Christ, woman! You think I 'ported clear over here at this time of the morning to play games?' he crackled.

I bit my lip and wished I had kept my big mouth shut. I had been in pretty bad odour with Goldberg for some time over my pending marriage. He was a nut about racial purity for Psi-people. He believed that the two strains of Psi and Normal should not be mixed, not only from the genetic point of view, but the psychological one. To give him his due, he was also aware of the hazards facing a minority group. After all, he was a Jewish/Irish Buddhist with a touch of Norwegian himself.

'Anything specific?' he demanded.

'Just the usual blanket panic reaction, as strong as I've ever seen it,' I said. 'Whatever it is, the probability must be high and it's sure to show up in the computer's report.'

'Let's hope so,' Goldberg said. He turned to glare at the silent line printer.

As if in response, it began its super-machine-gun rattle and spewed out a metre of paper before lapsing into silence again.

Goldberg moved swiftly across and ripped the length off the machine. It took him less than a minute to digest the information, then he swore and handed me the sheet.

'Here, what do you make of it?'

I scanned the report, conscious of his eyes on me, and praying that I wasn't going to make a fool of myself again

by saying the wrong thing. Most of the figures were virtually the same as those I had seen on the routine situation report at 18.00 hours on the previous evening, and those that had changed were in the direction of easing tension rather than increasing it. Prognosis for the next forty-eight hours was less than 15 per cent. A slightly more than six-to-one chance against atomic war breaking out during that period, which was the best odds the human race had had for some time.

'There's nothing obvious,' I said cautiously, handing the sheet back to him.

He snorted. 'What about Noone? You think he could have made a mistake and the whole thing was just a normal type nightmare?'

I turned to Carter, who was sitting very quietly watching us since my return. No backchat or comedy routines for Goldberg.

'You have the readings at the time of the alarm?' I asked.

'Yes, Captain ma'am. I gave them to the General before you arrived.'

'Maybe it won't show until we're nearer to the nodal point,' I suggested to Goldberg.

'Meaning that Noone knows better than the Command computer?'

'Not necessarily, but if the computer doesn't have the information...'

Goldberg ignored what I was saying. He was staring at the monitor screen, his lean face setting into hard lines.

'Who in hell told Noone to disconnect those leads?' he barked.

'I... I thought once he'd given us the alarm there wasn't any reason why he shouldn't spend the rest of the night in comfort.'

His pale eyes blazed contempt. 'Comfort! If you're so concerned I wonder you didn't hop into bed with him yourself.'

I felt the colour drain out of my face and the muscles at the corner of my mouth were tight as I said: 'I don't have to take that—even from you, General Goldberg.'

I should have known better. Goldberg never apologised. In any case, I had already ceased to exist for him as his mind passed on to other matters.

'Get Wilson and Mackinder down here, on the double!' he snapped to Carter. Then he perched his lean body on the chair in front of the keyboard and began a dialogue with the computer. By the time the dishevelled Intelligence men had arrived the printout was four metres long and growing fast. The three of them went into a huddle and I decided there was nothing useful I could be doing in the Monitor Room for the time being, so I went back to my room and got properly dressed.

When I arrived back again nearly half an hour later they were still at it and I thought for a moment that Goldberg hadn't even noticed my absence. As usual I was wrong. His grey head poked out of the huddle and he said: 'Where the hell have you been?' He pointed to the monitor screen. 'Get that Pre-Cog of yours back in harness right away. We need everything we can get on this thing.'

There was no point in arguing that Charlie was highly unlikely to get any further sleep that night and that the chances of his having yet another pre-cognitive dream were even more improbable. I went back into Charlie's room, and poor docile creature that he was, he accepted my reassurances that everything was going to be all right—and made no objections when I taped the monitor leads back on to his body. I stayed for a while, chatting about nothing in particular, partly because I could feel the reverberations of the panic reaction still there in his first level and partly because I understood that it was at times like this his loneliness really hurt.

I left him eventually and walked back to the Monitor Room, Mackinder was seated in front of the terminal keyboard, with Wilson looking over his shoulder. I met Goldberg in the middle of the floor on his way out.

'Nothing more I can do here for the moment,' he said.

'You've located the nodal point?'

'Like hell!' he snapped. 'Roses all the way according to the extrapolations—we're practically on the edge of a gol-

den age. Prognosis has gone down a whole point in the last hour.'

'Is that bad?'

'Not if it's true,' he said, bunching his incongruously dark eyebrows, which seemed to belong to a different set from the grey hair and beard. 'But if it is, where does that leave your boy Charlie?'

'He was never wrong during the trials.'

'That's another thing bothers me,' Goldberg said. 'Then he was working on data we'd fed him deliberately—stuff on which the computer itself would have predicted a blow-up. This time he's either spotted some relationship the computer hasn't seen, or he's pulled the whole thing out of thin air.'

'I think his Pre-Cog ability is more likely to be the result of fourth level seepage than any logical process of deduction,' I said.

'Even unconscious?' Goldberg shrugged. 'Yes, I suppose you're right. In that case he wouldn't *need* the data, would he? Even so, the nodal point has to show sooner or later . . .' He rushed past me towards the door.

'Where are you going?' I asked.

'Over to Strategic Command,' he flung over his shoulder as he opened the door.

He didn't have to walk out of the Monitor Room before porting himself to Strategic Command, but that's another funny thing about Teleports. They can't bear the idea of being seen in the act of leaving or arriving anywhere. He turned on me as I followed him out into the corridor. 'What the hell?'

'About the matter of my replacement,' I said.

'That will be arranged in due course.'

'Due course? I leave in three days—or rather two and a half now.'

He grunted. 'There are a couple of likely prospects over at Central.'

I was shocked by his off-handedness. 'You mean you haven't made a definite selection yet? I was hoping that I would have the opportunity of briefing whoever it was be-

fore I left. After all, Charlie does need careful handling if we're to get the best out of him.'

'If you're so concerned about his welfare, I wonder you can bear to leave him.'

'You don't understand—he's very sensitive...'

'So am I! Especially about the thought that the whole damned world is due to go kaput sometime during the next forty-eight hours if we don't find that node,' Goldberg said. 'Now will you get to hell off my back, Jan?'

'I'm sorry,' I said, turning away and walking back into the Monitor Room. That was the trouble with Goldberg; you might disagree with him, hate him or condemn him for his ruthless manipulation of human beings—but in the long run you always ended up recognising the fact that he was *right*. The whole root of the thing was tied up with his unshakeable conviction that the entire future of the human race depended on Psi Central. He'd had every member of the Psi Corps believing that since its foundation ten years ago and me in particular for the past five. That was why he was running the show and would continue to do so after I had settled into my cosy domestic routine—if we didn't all get blown to hell in the meantime.

I didn't stay long in the Monitor Room. Wilson and Mackinder were far too busy to take any notice of me. Not so Carter unfortunately, now that Goldberg was gone. God! Any man who can be lecherous under such circumstances and in such surrounds at 6 a.m. must really be trying to prove something. I got out of there and took an elevator up to the roof of the building for some fresh air. I could have saved myself the trouble. A bank of smog was rolling in off the river, glowing red in the dawn light. Maybe the blow-up was the answer, ridding Earth of the disease that was mankind at last, allowing her to return to a natural, unfouled state...

Goldberg was back again when I checked into the Monitor Room at nine o'clock. From the conversation that rattled around the knot of six people gathered near him I guessed that there was still no sign of the nodal point and therefore nothing anyone could do to avoid the disastrous probability

pattern. It occurred to me that perhaps in this one instance the nodal point was so close to the actual blow-up that there would be no time to do anything to correct the situation before it happened. Like if you put your brakes on about fifty metres before you reach that corner on the down-swooping mountain road you may make it, but if you can't see the corner until you're on top of it then you don't stand a chance.

Figuring that I might as well try to make at least one human being reasonably happy, I went in and had breakfast with Charlie Noone. As always, he seemed pleased of my company and after starting out by lying to him about the situation being well in hand I even managed to work myself into a slightly more cheerful mood.

Goldberg called a conference at mid-day. He looked wizened and tired, as if even his phenomenal energy was flagging under the hopelessness of his efforts. He explained that if the average forty-eight hour time lag still held good we had a whole thirty-eight hours and so many minutes in which to locate the node. He also talked very reasonably and calmly about the necessity for rushing through a full evaluation of any change, however apparently trivial, in the overall picture. Everybody must be alert, the utmost vigilance...

Watching that slight figure, and listening to the clipped, deliberately unemotional voice I began to be *really* scared that this time we just weren't going to make it.

The rest of that day and night passed in a kind of nightmarish blur. I was in a hypersensitive state where the whole of my body seemed to be covered with exposed, frayed nerve endings and my mind was whirling in a never-ending spiral of nothingness where no coherent thought seemed to stick in place for more than a few seconds at a time. Put in so many words I suppose I was running scared—and that went for 99 per cent of the people connected with the operation.

I say 99 per cent, because one really shining example of non-panic was the person who had been the source of the whole thing. Alone in his room he was free from the con-

tagion of fear that infected the rest, living his unchanged, routine existence. He accepted my reassurances without question and took at their face value the cheerful evaluations that channelled through to him continuously from the Strategic Command computer. That night he slept like a baby, while fifteen of us including Goldberg sat there in the Monitor Room watching the screens and dials for the first sign of . . . of anything.

My part of the vigil ended around half past seven the following morning when I tore myself away and walked wearily back to my room. I had a vague sort of hope that a shower and change of clothes would make me feel more human and insulate me at least partly from the hysteria that seemed to be vibrating in the very air of the building.

I'd just finished towelling myself when the doorbell buzzed. I slipped on a robe and hurried to answer it.

His face was leaner than I remembered, tanned a deep mahogany brown, and there were lines at the corner of his eyes that hadn't been there before. But there was no mistaking the grin as he reached out and hugged me close to his stained combat uniform.

'Tony! What happened?' I squealed. 'I wasn't expecting you until tomorrow night at the earliest.'

'Now what kind of a welcome is that?' he said, picking me up like a rag doll and kicking the door shut behind him. 'I hitched a lift with one of the fly-boys who was headed north, instead of waiting for the regular transport.'

'Tony!' I protested, as he dumped me on to the bed.

'I want you, a shower and some breakfast—in that order,' he said, peeling off the uniform.

What red blooded female could argue with that assessment of priorities after six months on the shelf? I stopped protesting.

About an hour later I sat opposite him in the mess as he demolished a plate of ham and eggs. I was oblivious to everything but the warm glow of my satisfied body and the renewed joy of his presence. He had always been one hell of a man, but the past six months seemed to have hardened

and toughened him to such a degree that I had the greatest difficulty in keeping my eyes off him for a moment.

'What's going on around here, anyway?' he asked at length. 'Everybody I've seen looks wrung out.'

'There's an emergency alert on,' I explained. 'Charlie came up with a traumatic nightmare the night before last and they haven't been able to locate the nodal point so far.'

'Charlie? Nodal point?' He frowned inquisitively and I suddenly remembered that he hadn't been told anything about Operation Canary.

'Charlie's a Pre-Cog,' I explained. 'I've been in charge of him for the past three months.'

'You mean he tells fortunes?'

'You could call it that,' I said.

'And this nightmare business?'

'It will take quite a bit of explaining, I'm afraid,' I said. 'But in the meantime I ought to go and make sure he's all right. He's probably awake by now.'

'What are you to this Charlie, some kind of wet-nurse?'

'I'll tell you all about it later,' I said, rising to my feet. 'Look, I'll see you back in my room in twenty minutes or so, all right?'

'Not all right,' he said, pushing back his chair. 'I've got a feeling I ought to meet this Charlie guy who's been monopolising your time for so long.'

'Well, I . . .' I began to object, then I thought to myself what the hell? What harm could there be in it? After all, Charlie had to be told sometime during the next two days that I was leaving. What more logical than I should show him the reason and have him happy for me? After all, we had been good friends.

'All right, come along if you want to,' I said.

Charlie was up and dressed when we arrived at his room. He was seated in front of the information screen watching the latest intelligence reports on the other side's ICBM deployment, but he switched off as soon as he heard the door open and rose to his feet.

'Jan, where have you been? I waited breakfast for you, but when you didn't show . . .' The welcoming smile on his round face faded as he saw that I was not alone.

'Charlie—this is Sergeant Moreno, Tony Moreno,' I said. 'Tony—Charlie Noone.'

They stood eyeing each other warily. Tony, now wearing his elegant walking-out uniform, alert, handsome and tough—and the little fat civilian in his baggy salesman's suit.

'Tony has just got back from six months' service in Antarctica,' I explained, wishing that one or the other of them would make the move to shake hands, or at least to say something.

Not a word—they remained a couple of metres apart, with me in the no-man's-land in the middle.

'I brought him in to see you, because I thought it would be a good idea for you to meet,' I said, trying to force an air of light cheerfulness into my voice. 'Tony and I are going to be married tomorrow, and I knew . . .'

What did I know? Babbling platitudes, I knew absolutely nothing. Even though I was a *Tp* I had been so stupid that I hadn't seen the thing that had been building up right under my nose for the past three months. *Charlie Noone* loved me—not in the carnal way the average man loves a woman. Unworthy creature that I was, he adored me as a goddess, an unattainable, pure ideal.

And I had destroyed that ideal by revealing to him that I was just another woman, no different or better after all than one of his ten dollar whores, a woman who had given her body to another man.

It was all there now, impossible to ignore, blazing out of Charlie Noone's mind—exploding into a berserk fury as he flung himself across the room screaming his hatred for the man who had defiled his goddess.

And Tony . . . After six months in the combat zone, where the least unexpected movement can spell instant death and a man lived as long as he could maintain a constant state of alert readiness, he reacted on a reflex level. He needed no other weapons, his battle-trained body was a

highly efficient killing machine. This was the kind of situation he had been trained to deal with.

The whole thing was over much too quickly for anyone to intervene. Charlie Noone was dead before his crumpling body hit the floor, the fire of his mind blotted out like a switched-off light bulb. There had been no time even for terror. In that last split second of his life Charlie Noone, the professional coward who had died a thousand speculative deaths, had known nothing but berserk, heroic rage.

Tony stared down at the body as if wondering how it had got there, then he looked up at me, the horror growing in his eyes. 'Jan, I didn't mean . . . He was attacking me, and for all I knew . . .'

I turned away, unable to face what I now saw in him; the animal violence, the primitive, killing strength that had destroyed Charlie Noone, crushed that gentle little man like an insect.

The next sound I heard was that of footsteps—going out of the room. I knew somehow that Tony was walking out of my life for ever, but I didn't look, for fear that if I saw just once more the movements of that strong, handsome body I wouldn't have the will-power to resist following him . . . or calling him back.

When I did turn at last Goldberg was in the room, kneeling beside the body. It looked somehow smaller and shrunken in death. The face was a nothing, just a doughy, expressionless mask.

'He loved me,' I said, my voice cracking on the edge of hysteria. 'All this time and I never even guessed. I was in his first level practically every day, but never once . . .'

Goldberg straightened up and looked at me. 'Be grateful,' he said gently. 'And don't blame yourself. There was nothing you could have done to stop his being killed. The nodal point in this particular probability pattern was nothing to do with intelligence data or weapon disposition. It happened when Tony Moreno got on that plane at Antarctica Base.'

'And now?' I asked, aware that in one short second the whole course of my life had been changed. I could never

look at Tony again without remembering what he had done to Charlie Noone—or remembering Charlie and how I had failed him.

'Believe me, Jan, it would never have worked with Tony.' Goldberg walked across and put his hands firmly on to my shoulders. 'Better you should know before it's too late.'

Why did he always have to be so damned right?

'But it is too late,' I said. My own voice sounded strange, as if it belonged to someone else, and I became aware that I was trembling. There were no tears, but inside me something seemed to be contracting, shrivelling into a tight, frozen ball . . .



OH, VALINDA!

*by*

MICHAEL G. CONEY

*Hunting bergworms was a highly profitable but dangerous business, for the monsters lived deep within the polar ice mountains. There was also the environmental pollution and Man with which to contend.*



## OH, VALINDA!

THE rigid wind hissed around Skunder's helmet as he stood, shivering despite the protection of thick fur, on the blinding Cantek ice-cap. Powdery snow was drifting about his boots and he shuffled nervously, watching the two Earthmen as they fiddled with their instruments, clumsy with gloved hands.

The shorter of the two men, the captain, spoke. 'There's a definite trace down here. Right below us, depth about three hundred feet, I reckon. A big one.'

'You sure?' the other, taller man queried; his voice was cynical as always. 'I mean, we'd look silly if we drifted out to sea on an unpropelled floe, Erkelens.'

'Rosskidd,' the short man's voice was deliberately patient, 'I've been transporting floes for a few years now. I know a trace when I see one.' He indicated the screen. 'See that shadow?' The two men crouched over the large rectangular box. 'That's a bergworm, about four hundred yards long. A good worm.'

Rosskidd chuckled dryly. 'I suppose you can tell me which end the head's at?'

Erkelens glanced around, his gaze taking in the dazzling snowfields rising with distance into the blue haze of the floating polar ice-mountains. Turning, he regarded the ocean, grey and silver and raw, tossing from the horizon towards them, disappearing from sight beneath the edge of the glacial cliff some forty yards away. He moved back to the screen and indicated with a gloved finger.

'That's the head,' he stated definitely. 'Facing north-east, against the flow of current.'

Skunder, still silently watching them, wondered why these Earthmen always insisted on placing such faith in their electronic gear. He, Skunder, a native-born Cantek—he knew the bergworm was down there. He had told them

where to look. As soon as the helicopter passed over this spot, he had sensed the presence of the giant marine worm; sensed it as a tingling in his bones, a nervous void in his stomach. Sensed the obscene warm fatness of phosphorescent death buried deep within the ice, pulsing, drawing in huge quantities of water, filtering out plankton and larger fish, jetting out the torrent of denatured water from its monstrous anal opening. Hanging in the underside of the floating ice-cap like an inverted U; its phosphorus-rich body cooled, its cavernous mouth questing free and murderous in the dark water. Skunder shuddered . . .

'You, Cantek . . . Skunder. Set up the tent.'

He untied, unwrapped and laid out flat the flaccid folds of pink polythene and awkwardly screwed in the nozzle. As the two Earthmen moved away to survey their new property he jerked the stiff lever and air hissed, the tent rising and crackling, soon standing taut and dome-shaped like a mature breast on the niveous body of the snow-plain.

Skunder grinned to himself. From time to time he would be amazed at the technological supremacy of Earth over Cantek; the plastics, the atomics, the mere perfection of machinery. And then he would think to himself: yet they need *me* to control the bergworm. So he would smile and for a moment himself feel superior, despite knowledge of his home planet's oil-based economy and polluted seas.

But they were clever, these Earthmen who had bought the option on the Cantek polar ice-cap a century ago. They had been farsighted, their judgment based on experience of their own world; while Cantek had laughed and sold what it thought was a useless waste of floating ice.

Skunder shrugged and carried the equipment and provisions into the tent, stowing them neatly, setting up the two beds. Himself, he preferred to sleep outside in a minidome, away from the company of the two men who mostly ignored him, thereby making his loneliness more intense.

Oh, Valinda . . .

So he set up his minidome and walked over to where Erkelens and Rosskidd had begun to drill and the ice was

fountaining steam as the laser beam sank deep. To act as general labourer was a part of the deal and the men of Earth paid well.

Roskidd looked up. 'Ah, Cantek. You can drop the charges in. Make sure they go right to the bottom. Follow us along with the leads. Mind you don't break any. Got that?'

'Skunder's done this before,' said Erkelens mildly.

'No doubt, but I'm an explosives expert, Skipper. That's why you hired me, remember? After that trouble you had last trip, when you split the berg and killed the worm ... I'm not blaming you, but you've got to watch Canteks all the way, or they'll fall down on the job. I know.'

In the course of the next few hours they drilled innumerable shafts deep in the ice, delineating an area roughly one hundred yards square based on the estimated size of the worm beneath. Skunder followed behind, dropping the charges, trailing the wire. At last they were finished; they returned to the dome and connected up the control unit.

Erkelens glanced at the sky. Cantek's yellow sun was well above the horizon; the long polar day would last for a few more weeks. 'No point in doing too much,' he said. 'We'll turn in for a while. Detonate in six hours.'

Roskidd yawned; in the warmth of the dome he had removed his top clothing and stood bearlike and hairy in long underpants. Skunder suppressed his distaste for the uncouth, animal appearance of the man and said good night politely, stepping through the lock to the snow. Erkelens muttered tiredly but there was no reply from Roskidd. Skunder hadn't expected one. He crawled into his mini-dome and slept.

He was wakened within an hour by a harsh chattering from above. Pushing his head through the flap of the dome he looked up. Stark against the blue mist of the sky was the dragonfly outline of a helicopter whirling west. He withdrew into the tent and tried to sleep again but his thoughts were whirling with the rotor blades in a vortex of hate. It was not the chartered helicopter which had brought them

here. He had recognised the white insignia on the under-belly of the machine, however; the image remained on his retina for several hours.

Asleep at last, it seemed only minutes before he was awoken again by a rough hand on his shoulder. He opened his eyes wearily; Rosskidd was bending over him, his face unshaven and expressionless with contempt.

'You. Up.'

Skunder rolled his legs off the bed, stood, and already fully dressed, followed the Earthman out of the dome. Erkelens was emerging from the larger dome, dragging the detonating equipment. He glanced at them briefly, then scanned the horizon.

'Everything ready?' he queried, a note of uncertainty in his voice. There was something very final, irreversible, about the operation of blasting clear.

Rosskidd looked at him. 'All ready,' he said.

'Right.' Erkelens depressed a button and the ice trembled as the charges fired one by one at microsecond intervals. Little puffs of snow rose in a rectangular mist around the camp, apparently simultaneously. The three men waited, not looking at each other, standing square on the ice and waiting for their feet to tell them whether the operation had been successful.

'We're free,' said Erkelens with relief as he detected motion beneath him. Imperceptibly, the ice was rocking. Grinding noises began, rose to tortured shrieks as the new berg began to move clear of the ice-cap. 'Start cutting the control shaft, Skunder.' He disconnected the detonator and dragged it back into the dome.

Skunder wheeled the pump and laser to the seaward end of the new berg. He erected the laser drill downwards-directed, hung from a tripod, and set the control to throw a beam two feet wide by a thousandth of an inch thick. He flicked the switch and checked the rotary propulsion unit with a test circuit. The two-foot thread of light focused on the ice and described a slow radius. Soon Skunder was standing beside a neat circular pool of steaming water, four-foot six in diameter. He started the synchronised pump and

watched as the ribbon of steam circled the flexible six-inch pipe. Satisfied, he relaxed as the unit drove the shaft rapidly downwards, the generator puttering evenly, the water flowing from the outlet of the pump, away across the snow.

He walked back to the camp. Erkelens and Rosskidd were preparing breakfast on a portable stove; a whiff of bacon arose.

'I saw Lejour's helicopter last night,' Skunder said.

The effect of his remark was immediate. Erkelens sprang to his feet, upsetting the frying pan.

'Where? Which way was he headed?'

'West.'

'West. God . . .' Erkelens stared at Rosskidd. 'He could be on the same run as us. He could be going to Alkar. It's the only sizeable city in this direction.'

'We've got a start on him.'

'Not if he's blasting free downcoast, we haven't. He's taking the shortest route. We've got to follow the ice-cap for thirty miles before we strike off across the Polar Sea. I thought we'd got plenty of time; I was more interested in finding a good worm. If Lejour's already got a worm lined up . . . He'll be ahead by the time we reach his departure point.'

'So if he beats us to Alkar, he gets the best market,' Rosskidd said slowly. 'We have to take a give-away price. And we can't hang around bargaining, with the berg melting under us in the warmer waters.'

'Christ.' Erkelens slumped to his collapsible chair, threw the spilt bacon back into the pan and stirred it moodily.

'We have a good worm,' Skunder ventured. 'We can beat him.'

'I hope so.' Rosskidd looked at the Cantek meaningfully.

Skunder decided he would be better out of the picture, so he muttered something about seeing to the laser and walked quickly away.

The hole was deep, the bottom out of sight in a mist of steam. He watched for a while, his thoughts straying, then felt the unmistakable distant jolt as the bergworm sensed

the presence of the approaching laser beam. He switched off, removed the tripod, strapped the smaller, portable laser on his back and threw the collapsible ladder down the shaft. He began to descend.

At the foot of the shaft the flexible pipe was sucking air, a noisy gobbling sound. He shrugged the laser from his back, thumbed the switch and began to enlarge the shaft into a chamber, his breathing harsh in the steamy atmosphere. When he had melted enough ice to permit free movement he drove away to one side, playing the laser on the glittering ice-wall, kicking the hose before him as he moved forward. He drove a narrow tunnel about twenty feet horizontally into the ice then began to slope downwards, gradually doubling back, to run parallel to, but many feet below his original course.

An hour later he could make out a dark shadow beyond the scintillating reflections of the laser beam. He turned the instrument to low output and carefully melted away the remaining ice, exposing a rough leathery wall at the extremity of the tunnel.

This was the flank of the giant bergworm. He tried a full-power pulse. The hide contracted, the flesh bubbled. The berg lurched, a vast heave under his feet. The worm was a good one, huge and strong.

Skunder shuddered...

He crawled back to the chamber at the foot of the shaft and repeated the operation, driving a tunnel to the opposite flank of the worm. He tested the creature's reactions then, satisfied, climbed the ladder and eventually emerged into daylight.

Erkelens and Rosskidd were waiting for him.

'Everything OK?' Erkelens' face was lined with anxiety.

'Fine. It's a good worm. We'll be all right.'

He looked around. They had left the ice-cap and were drifting in the open sea. Behind them yawned the gap in the glacier, a behemoth's bite.

'There is no right of property in a floating berg.' Erkelens sat outside the dome on a folding chair, oiling his rifle,

watching the shimmering cliff's slide by. 'Once it has left the ice-cap, possession is what counts. Occupancy.'

'Scared of piracy?' Rosskidd glanced at the grey horizon.

'Of Lejour. He's got more resources than me. He can pull some queer tricks, and he's got the cash to back them up. He can afford his own helicopter—and you ought to see his submarine. It's a bit different from that can over there.'

He indicated the small craft hanging from automatic davits at the lip of the berg. A patched ovoid of grey metal, it measured some twenty feet in length and contained cramped accommodation for one man in dangerous proximity to an ancient miniature reactor.

Skunder's eyes followed Erkelens' finger and his heart constricted at the thought of the claustrophobic blackness within.

The image remained with him as he made his way to the control shaft to correct a slight course deviation. As he played the laser at low power on the tough hide of the worm, he imagined the huge head swinging below the dark water, swinging to the right as the beast's muscles contracted in response to the heat irritant. He imagined the cavernous mouth sucking, blindly questing for sustenance in the depths...

He remembered Valinda...

He remembered Lejour ('Get down there, you Cantek, and find out what's wrong—I don't want to see you back until we're moving again.') and Valinda as she stood beside him, holding his hand as the Earthman raved about loss of profits for late delivery, inefficiency of his Cantek worm expert; while the berg heaved idly on the grey sea. So he and Valinda climbed into the midget submarine and swung wildly out from the face of the berg while Lejour overrode the automatic, freewheeling the davits with heedless speed.

He remembered the jarring impact as they hit the water, the sudden blackness in the viewport turning to abrupt viridescence when he switched on the floodlights and illuminated the side of the berg as they sank slowly. He remembered Valinda's hand on his in a tender attempt to quell his uncontrollable trembling ('Don't let him get you

down, darling; just remember the bonus at the end of this trip.') And his feeling of gratitude because she knew he was shivering from fear, not anger.

And then the sight of the bergworm . . . Oozing segmented from the base of the berg like a monster maggot, glowing phosphorescent in the black water, a gigantic tube of mindless evil. Hanging low, too low; two thirds of its tunnel it was preparing, for unknown reasons, to quit the berg.

It had to be driven back. The head had to be forced upward and backward, the brute's present forward creep through the berg had to be reversed. Hovering with Valinda in the midget submarine, he released oxygen from the forward vents and watched as the bubbles were drawn into the maw of the worm. They disappeared and the mouth gaped further in a silent roar of pain as the gas coursed through the phosphorus-rich body. But it did not retreat.

He remembered his sudden shock when he found that Valinda was no longer beside him. Knowing that he would have refused her, she had taken the initiative; he felt the click as the airlock closed and he moved too late to stop her. Presently her rubber-suited figure appeared in the viewport, moving steadily towards the bergworm, drifting fast in the current of inhaled water. In one hand she held a jet pack, the straps swinging loose; in the other hand, a small mine.

She reached the lip of the worm's mouth and hung there, a tiny black figure in the nightmare phosphorescence, while she pulled the lever which sank barbs deep into the coarse flesh at the same time arming the mine. Then she began to swim back, kicking strongly with her legs against the current, the jet-pack streaming bubbles as she hugged it to her breast.

He remembered Lejour's careless attitude over the time-setting on the mines. He remembered wishing he had had a chance to check the delay factor before Valinda had left. He remembered holding his breath as he watched her struggling towards him; and he inched the submarine as close to the yawning mouth as he dared.

He remembered the flash, the sudden star-shaped ragged wound appearing on the worm's mouth edge. He remembered Valinda's body tossing in the shock-wave, remembered the jolt through the submarine, the flickering of the lights, the sight of Valinda spinning slowly head over heels, unconscious, out of control, drifting into the mouth of the worm as it convulsively withdrew into the berg...

And he remembered, a recollection coloured with the crimson fury of murder, Lejour's later remark:

'You won't have to split your percentage now, will you?'

Oh, Valinda...

Roskidd's voice was in his ear and he returned to the present.

'I don't know what you think you're doing down here, but we're out of control. The berg's spinning.' The big man was regarding him furiously, and behind the rage was terror; the pale eyes flickered to the exposed flank of the worm.

Skunder considered. A spinning berg could mean several things. It was possible that, lost in memories, he had over-corrected with the laser, but he didn't think so. Again, the worm could have withdrawn its head into the berg, allowing the tail to hang free in the water, jetting aimlessly. This was unlikely; he would have noticed that the area of skin at the control point had altered.

The third possibility was a near certainty. 'Sometimes a worm will become aware that it is being used,' he informed Roskidd. 'It senses the presence of men on the berg and the constant use of the laser irritates it. As a rule, the worms are almost mindless, but you can get one which turns rogue.'

'So what's happening?'

'It's doubled its head back, and it's burrowing towards the surface of the berg. We've lost propulsion. We're drifting with the tide and spinning with the wind.'

'Great,' said Roskidd sarcastically; his voice was soft and he smiled mirthlessly, as though dealing with a child. 'So what do you suggest we do now, Mister Skunder?'

The Cantek shrugged. 'Wait,' he replied simply. 'After a while the worm will double back and work through to the water again. It will probably finishing up facing in the other direction. This often happens, but it's rare that a worm leaves the berg altogether. At this stage in the life cycle they have to keep cool. Sometimes the heat of the worm's body melts the ice around it, making it difficult to get a grip to propel the berg, so the worm merely drives a new tunnel.'

'You're quite an expert.' The Earthman's voice was dangerously quiet and Skunder shivered inwardly. Why were they all like this? What was it about the ice, and the worms, and apparently the very fact of being on Cantek, which turned the Earthmen sour? They didn't need to come here, but they came because they had the chance of making money. Yet it appeared that the very process of making it drove them insane.

'I've studied marine biology,' Skunder said in carefully conversational tones. 'In particular, the bergworms and their life-cycle. It's an important study on Cantek, more so since the fresh-water crisis. Did you know that some worms can make up to forty journeys north in a lifetime? Their body is refrigerated in the berg as they head for warmer seas, then, when a certain latitude is reached and the berg is melted away, they spawn and make their way back, leaving the young to feed in the richer, warmer waters. The young worms only head south for the polar cap when they are mature; the males stay under the cap for the rest of their lives while the females mate, burrow into the edge of the cap, and wait, feeding all the time, for their section of ice to break free...' Skunder was aware that his voice had risen; he was talking desperately in terror of this large Earthman with the dangerous shadow of fear in his eyes.

'You're too smart by half, Cantek,' said Rosskidd coldly. 'Follow me. We're going to have a talk with Erkelens.' He swung away and struggled, feet sliding, up the sloping ice-tunnel.

Erkelens was sitting outside the dome, moodily eyeing the slowly revolving landscape. He looked up as they ap-

proached. Rosskidd seized Skunder by the elbow and propelled him before the captain. 'Tell him what you told me,' he commanded.

Skunder explained.

'So there's nothing we can do,' observed Erkelens heavily when the Cantek had finished.

'I'm not so sure of that,' said Rosskidd, with a meaning glance at Skunder. In the open air, the tall man had gained confidence again; the fear was gone from his eyes to be replaced by a shrewd look.

'Have you got any ideas, Rosskidd?'

'No, but I think Skunder might have.'

'Skunder?' The captain regarded the Cantek. 'I thought you said it was a question of time?'

'That's right.' Skunder wondered what was coming next, but Rosskidd did not enlarge upon his remark.

Later in the large dome, while Skunder slept outside, Rosskidd made his views plain.

'I don't trust that Cantek,' he informed Erkelens.

'Skunder? He's OK. He's done the last three trips with me. A good man.'

'Man?' Rosskidd laughed shortly. 'How you can call a four-foot humanoid midget a man, I don't know, Erkelens. You've been here too long. You've gone native.'

'What exactly have you got against the Canteks, Rosskidd?'

'Look.' The big man leaned forward, his expression ominous. 'You hired me to do a job and I'm doing it. So far I've done it well, I reckon, which is what I'm paid for. I give value for money. But I'm not paid to like the Canteks. Do you know what that superior little bastard did in the shaft? He started giving me a lecture about the worms, for Christ's sake. Told me he was a marine biologist.'

'He is.'

'By Cantek standards maybe, but he wouldn't get far on Earth. Who the hell do these people think they are? They're way behind the times. They still use internal combustion engines and they've polluted their atmosphere and sea.'

They're centuries behind Earth. And then that weird dwarf starts pulling the superior knowledge stunt on me.'

Erkelens regarded his mate carefully. 'Are you scared of the ice, Rosskidd?' he asked shrewdly. 'Because if you are, you shouldn't be on this job. There's something about the ice; it gets you after a while. A man can get scared, permanently. I had trouble once, so I saw a doctor about it. He said this feeling comes on because we're in an environment of non-life. There's nothing here, you see, except the ice, and the sea, and the sky; in these latitudes there are no birds, and no fish that I've ever seen. At least on a ship you'd have a large crew, a cat or two and rats, no doubt. But here, on the ice ... Have you ever had the feeling, Rosskidd—when you're at the other end of the berg, or down in the tunnels by yourself, have you ever had the feeling that you're the only living being in the whole Galaxy? Almost the only living being, that is; but not quite. Because down there below you is the worm. It's just you and her, nothing else, Rosskidd; just you and the worm, alone in infinity and eternity; and you know you're no match for the worm. Have you ever felt like that, Rosskidd?'

'Damn you, Erkelens,' muttered the other man ...

'I just wanted to point out that all of us have our problems here. I've got mine, and Skunder's got his. But because we're scared, we don't start hitting out at each other. You're new to the bergs, Rosskidd, so we make allowances for you. But you've got to make allowances for us, too. We're stuck here for a long time, the three of us, and we've got to get along together. Now. Before we started all this, you were telling me you didn't trust Skunder. Perhaps you'll tell me why.'

Rosskidd hesitated. 'He seemed to give up easily,' he said at last. 'When the berg stopped he knew what the trouble was, but he didn't seem to want to do anything about it.'

'He's the expert, you know,' Erkelens pointed out gently. 'This sort of thing has happened before. There's very little that can be done.'

'I daresay, but I thought . . . I thought at the time, that maybe he was in league with Lejour. That he was delaying us deliberately.'

Erkelens looked thoughtful. 'I don't think so. He told us Lejour was around, remember? He needn't have done that. We didn't hear the helicopter.'

Roskidd mumbled something, unconvinced, and the two Earthmen began to prepare for bed. Erkelens was soon asleep, his breathing deep and regular, but Roskidd tossed on the nightmare fringe of waking dreams for a long time. He kept seeing the ice beneath him as he lay on his stomach; it was as though the bed was not there; the ice was green and slowly changed to blue, bright phosphorescent blue, as the bergworm drove its way upwards, vertically, questing hungrily for Roskidd who was the only other living being in the Galaxy . . .

Erkelens was crouched over the screen. 'I think she's turned,' he said. 'The trace has lengthened. Skunder, what do you think?'

The Cantek paced about the ice for a moment, expressionlessly. Roskidd sniffed. 'What's he supposed to be, telepathic?'

'Sort of,' said Erkelens. 'The Canteks have an affinity to animal life. You've noticed it already, haven't you? Skunder found us this worm; all we did was to plot the exact position.'

The Cantek stopped pacing. 'We shall be moving again within the hour,' he informed them positively. 'I can start drilling the control shaft again.' He left them.

In fact the motion of the berg changed in fifty minutes; the spinning ceased and, to Erkelens's relief, they commenced moving in the right direction, heading west, hugging the coastline. It would be some time before Skunder's control arrangements were complete; meanwhile, they were not losing any time.

Shortly before suppertime Roskidd hurried to the dome to find Erkelens crouched outside preparing the meal. 'There's a free berg ahead of us,' he gasped. He was breath-

less, puffs of mist pulsed from his open mouth. 'Could be Lejour. He hasn't got much of a start, after all.'

'And Skunder said we had a good worm.'

'He didn't say how good Lejour's worm was.'

'We'll soon know. How far ahead is he?'

'About a mile.'

Skunder was approaching them, a tiny, child-like figure on the white expanse. He glanced at the steaming pot, then at Erkelens. 'Control shaft complete, Captain. Everything in order.' He grinned nervously.

'Rosskidd's sighted Lejour. About a mile ahead of us. What are our chances?'

The Cantek started; he shielded his eyes and gazed across the sea, his expression unfathomable, while Rosskidd watched him closely. 'I said we had a good worm,' Skunder reminded them. 'Lejour will have Alvo with him as pilot; he used him on the last trip. Lejour will see us, and make Alvo hurry the worm. Alvo is not a strong man . . . I think, within the next week, Lejour's worm will be spent, or it will revolt and quit the berg. I feel sorry for Alvo. We will reach Alkar before them.'

Rosskidd stared at Skunder. 'What you're saying is, we shouldn't worry if Lejour draws ahead of us?'

'That is so.'

Erkelens broke in hurriedly. 'Look, Skunder. I don't want to teach you your own business, so let me put it like this—I wouldn't like to lose sight of Lejour, if you get my meaning. Let him draw ahead if you must, but not too far. I want to keep my eye on him.'

'Tactfully put, Skipper,' remarked Rosskidd.

Skunder looked from one Earthman to the other, then turned and made for his tiny sleeping quarters, unzipped the entrance and crawled inside.

'Looks like he's not eating,' Rosskidd observed. 'You've upset him Erkelens.'

The captain stared at his mate furiously. 'When you've made a few more trips, Rosskidd, you might begin to understand. Meanwhile, just remember that there are three human beings on this berg, and another three on that berg

ahead of us. And they are our enemies, and the sea is our enemy, and the sky and the bergworm are our enemies, and even our own minds. We're heavily outnumbered, Rosskidd, we three here. We don't want to increase the odds further.'

Moodily, Rosskidd spooned a mouthful of stew, gazing at the silent minidome a few yards away.

For the next week the berg ploughed through the grey ocean northwards, leaving the glittering ice-cap far behind, always keeping in sight the crystal flicker on the horizon which denoted the position of Lejour. The sea developed a sheen as they progressed; the fringes of pollution. One morning as Rosskidd and Erkelens were finishing breakfast they were alerted by a distant high pitched whine.

Erkelens looked up in surprise. 'Sound like Lejour's helicopter,' he remarked. 'Heading this way.'

'What do you suppose he wants?'

Erkelens grinned. 'Well, there's always the chance that he's broken a leg, and his mate's coming to beg assistance. We're a long way from land, and his helicopter has no great range. I'm looking forward to this.' He watched as the helicopter appeared, a winging beetle in the misty sky; hovered, and descended towards them to land in a fog of fine snow.

A figure emerged and strolled towards them unhurriedly. They remained seated. Lejour stood above them, a small man about the height of Erkelens. He greeted them. Erkelens looked up, as though surprised to see him. 'Hello, Lejour,' he said casually.

'I thought it must be you. When I saw you trailing behind me, I said to myself, that's Erkelens, bound for Alkar, and too late as usual.' Lejour's tone was light and bantering; he glanced at Rosskidd.

'Rosskidd, meet Lejour.' Erkelens introduced the two men who eyed each other warily. There was a lengthy silence; Erkelens and Rosskidd resumed their breakfast. 'What's your problem, Lejour?' asked the captain at last, through a full mouth.

'You're the one with problems. Lagging behind a bit, aren't you? You won't get much of a price at Alkar, once I've flooded the market.'

'Always assuming you get there first. Which is an assumption I'm not making.'

Lejour squatted on his haunches, bringing himself down to their level. 'Now, look here, Erkelens,' he began in reasonable tones. 'I don't see any point in our competing over this trip. We're cutting each other's throats. I've got a suggestion to make.'

'I thought you might have.'

Ignoring the sarcasm, Lejour continued: 'We can make a killing over this thing. We both know the fresh water shortage at Alkar. So why not join forces; say, tell them that they have to accept both bergs at a fixed price, a little below the going rate, of course; they're not fools. But that way we'll both gain, instead of one of us taking the chance of getting next to nothing.'

'You're the one who's taking that chance, Lejour. I'm confident of my price.'

Lejour stood abruptly. 'You're a damned fool, Erkelens. Racing like this, we could finish up with our worms quitting the bergs, and neither of us will make it.'

'I'll make it,' said Erkelens confidently.

Lejour glared at him, then spun round and started back for the helicopter. As he passed the minidome, Skunder emerged. The two men stood motionless for a moment, a frozen tableau on the ice as Lejour halted in mid-stride. They said nothing that Erkelens or Rosskidd could hear; they gazed at each other for an instant before Lejour resumed his walk to the helicopter. A moment later the machine roared into the sky and Skunder joined them, sitting on his heels and eating silently while the other two regarded him uncertainly.

'What do you make of that?' asked Rosskidd, when Skunder had finished and departed.

'Lejour's overtaxed his worm. He knows we can beat him to Alkar.'

'I mean him and Skunder.'

Erkelens sighed. 'I wish you could forget this notion of yours. Skunder and Lejour worked together once. Lejour was surprised to see him here, maybe. I don't know. I don't see that it matters.'

Roskidd muttered something and walked away.

Later Erkelens met Skunder at the north end of the berg. The little Cantek was gazing out to sea. 'Lejour's slowing down,' he said. 'We're closing on him.'

'What exactly is between you and Lejour?' asked Erkelens.

Skunder scuffed his leather-bound feet in the snow and was silent. He looked at the Earthman, then at the sea again. He sniffed. 'Smell that, Captain?' he asked.

Obediently Erkelens inhaled. A faint, thick smell came to him, cloying. 'What is it?' he asked. The sea flowed past them, rainbow coloured. 'Pollution?'

Skunder sighed. 'Another mistake by my people,' he said. 'You ought to keep up to date with what goes on, Captain. Cantek is not just a mindless planet which earns money for you to send home for a future memory of retirement. Cantek is a world where humanoids live and love and kill, and my people are just as greedy as yours, but younger. And in their greed they make mistakes, just like Earth did, years ago. Earth could prevent us making those mistakes if it wanted, but Earth will not help.'

'You're feeling bitter today, Skunder. Was it seeing Lejour?'

'Possibly. It doesn't alter the facts. Your people have come to our planet to make money out of us. If you helped us progress to your level, there would not be so much money to be made. We would not, for example, have the fresh-water problem, and the polluted seas and atmosphere. You have beaten the pollution problem on Earth, right?'

'We have. It took a long time and there was a lot of opposition, but we did it.'

'And I expect before you achieved that, your ocean looked like this, sometimes.'

Erkelens examined the water. Even from the height of the berg, he could discern the oiliness of the surface, the

rainbow reflections. 'It's spread this far south,' he murmured. 'In a decade it'll reach the ice-cap. And then what? How can you get any rainfall, if the sea is unable to evaporate?'

'It's not quite that bad yet, Captain. This is from the new submarine oilfield. You remember, I mentioned it last trip? There was a big project, about five hundred miles from Alkar. Men were down there, living underwater in a big pressure dome, drilling, piping the crude oil to the coast.'

'I remember.' Erkelens gazed at the oil slick in horrified fascination.

The disaster occurred last month. Nobody knows quite what caused it; maybe the dome fractured, maybe there was an explosion or an earthquake. All we know is that contact with the site was lost suddenly. Site!' Skunder laughed, shortly and bitterly. 'It was more like a miniature city. The oilfield was going to supply the whole of Cantek for the next two hundred years, so they said. But contact was lost, as they put it, and suddenly the surface of the sea in this area was covered with a layer of oil inches, even feet thick. It's high-grade stuff. I wouldn't even light a cigarette until we're through, if I were you ...

'But I can't get over the needlessness of it,' the Cantek continued. 'Earth doesn't use oil as a fuel any more. Why should we?'

'I guess the World Government thinks the lesser-developed planets should make their own way forward,' said Erkelens defensively. 'We've had some bad examples, even on Earth itself in the old days, of what happens when you artificially accelerate the progress of a race.'

'So we don't get our reactors and we don't get our uranium.'

'Skunder,' said Erkelens patiently, 'Cantek still has a major war every twenty years. Let things settle down. Give yourself a chance. Handing out reactors to all your various governments would be like giving lasers to chimpanzees.' He coughed uncomfortably as the insulting aspect of the simile struck him.

Skunder didn't reply, but gazed at the slowly heaving surface, brooding.

'We're closing on him,' observed Rosskidd with satisfaction. 'We're closing fast.'

'His worm is tired,' Skunder surmised. 'He has driven it too hard.'

It was two days later. The atmosphere was heavy with the clinging stench of oil, whipped past their faces by the driving northerly wind which had, over the past few hours, slowed the bergs almost to a standstill. Half a mile away was Lejour's berg; from time to time they could see the crew moving about, black ants on the translucent silver.

'Do you think his worm will leave him?' asked Erkelens hopefully.

'Not under this oil. The water will be dark, down there. The worms are scared. They will cling to familiar surroundings. You notice our own motion?'

The berg was rocking, an irregular movement which could not be attributed to the action of the sea. The giant worm was questing this way and that; they could imagine the cavernous mouth gaping as the head swung from side to side, seeking an end to the unnaturally black water. Nevertheless they continued to inch forward in a generally north-easterly direction. Skunder had advised against exercising too much control at this time; it was better to let the worm have her head until the oil was behind them.

'What's going on there?' asked Erkelens suddenly. The three tiny figures of Lejour's crew were grouped at the near end of their berg engaged in some sort of activity. A cascade of minute black dots fell slowly past the scintillating face of the berg. They saw no splash as the object hit the sullen water. Erkelens and Rosskidd regarded each other in some alarm. 'The bastard's up to something,' the captain said.

Suddenly the water at the base of Lejour's berg erupted into black and crimson spray; seconds later the thud of a detonation reached them.

'Trying to stir his worm up?' Rosskidd chuckled. 'I suppose that's one way.'

Erkelens and Skunder didn't reply. They watched as the fountain of water subsided. Through the thick black smoke which drifted towards them they could see a wide crimson glow spreading, then the dense fumes hit it from view.

'He's fired the sea!' Erkelens shouted. 'The bastard's fired the sea! The wind will carry it towards us!'

'So?' Rosskidd was coughing, his eyes streaming. 'We can sit it out in the dome.'

'You don't understand,' said Skunder quietly. 'It could kill our worm.'

'How? He's safe enough down there.'

'I don't think so . . .' Skunder was rubbing a cloth in the snow; he tied it around his lower face in an effort to filter out the fumes. 'A worm can panic.' His voice was muffled. 'It's not entirely blind; there are light-sensitive cells above and behind the mouth. It's already nervous because of the oil . . .'

The smoke was clearing as the blaze approached; the wind whipped the black fumes lower, beneath their feet and round the flanks of the berg like a thick swirling tide. Beyond, the flames had spread into a broad ribbon some three hundred yards wide. The berg trembled.

'The worm is frightened,' said Skunder.

Rosskidd glanced around nervously. 'What can we do?' he asked.

'Nothing. Just wait.'

Crimson, yellow, boiling into jet black, the broad lake of fire swept towards them as they stood mesmerised on the lip of the berg. Beyond, Lejour's berg stood steady in calm water; they could see the minute figures of the crew, watching.

'Look!' A harsh cry from Rosskidd.

Fifty yards ahead a paleness appeared in the streaming black. A harsh sound reached them, a giant gasp, a tortured, racking inhalation. Heaving above the smoke, dripping cataracts of oily water from its segmented hide, the head of

the bergworm appeared. Erkelens heard a low moan; Rosskidd was gazing at the monstrous apparition in horror, his hand clasped to his mouth. The head rose from the sea, higher, laboriously, swinging ponderously from side to side as the worm groaned in gigantic agony and the flames swept closer.

'She cannot get her head back underwater,' Skunder cried. 'The fire is too close.'

Erkelens didn't hear. He watched as the flames approached; his lips moved as he silently implored the Leviathan to save itself, to return to its natural element. But the fire was too close now, directly below the head of the monster as it reared farther from the water and the berg shuddered as great sinews strained in the corridors below. The neck and head were vertical now, the cavernous mouth gaped at the sky in mortal supplication. Fifty feet from the sea the monster rose like a lighthouse beside the berg, and the three men stepped back, appalled.

'She's going!' cried Skunder.

The berg itself was groaning as the tension increased, a trembling vibration transmitted into creaking cacophony. The flames were lapping around the column of the worm's neck, the head was shuddering with strain, tilting, falling in seeming slow motion, collapsing back into the blazing sea in a rising cascade of fire with a booming concussion, a giant thunderclap.

Roskidd and Erkelens were flung to the ground as the berg heaved and lurched; only Skunder remained standing to witness the end. The huge tube writhed in the sea of flames; the head rose once more, slowly, barely clearing the surface, and emitted a vast, coughing exhalation, spewing from the cavern of its body a gout of blazing oil, then relaxed into motionlessness and sank slowly beneath the surface. The flames moved on, past the flank of the berg. The berg was still, dead.

Skunder walked away, leaving the two men lying in the snow.

Erkelens was the first to move; he rolled over, looked at

the sky, sat up. He nudged Rosskidd who still lay there, his head pillowled on his arms.

'OK, Rosskidd. You can get up now. It's all over.'

Rosskidd groaned and turned over, he looked at the captain with the dregs of fear in his eyes. 'God,' he muttered.

'Take it easy. We're all right.' Erkelens stood, brushing loose snow from his furs.

'I thought ... I thought the berg was going to capsize. I've heard it doesn't take much to capsize a berg when it's been moving through warm waters. I thought we'd had it, Erkelens.'

'So did I, as a matter of fact.' Erkelens glanced at Lejour's berg, unscathed, moving slowly northwards; then he turned and surveyed the blazing sea rolling into the distance. 'Where's Skunder?' he asked suddenly.

'I don't know ... He was here a minute ago. Have we lost the worm?'

'Yes ...' Erkelens shielded his eyes with his hand and gazed around the berg. 'There he is!' he exclaimed. 'Christ, he's swinging the submarine out! He's going over the side!'

Rosskidd laughed bitterly. 'The little bastard's running out on us. We're stranded, we've got no worm, so he's teaming up with Lejour.'

'I don't think so, somehow,' said Erkelens.

Skunder depressed the lever and heard the click as the hooks disengaged. He thumbed the starter and coaxed the ancient pile into reluctant activity. Soon the turbine began to hum and the tiny submarine slid beneath the dark water. He switched on the floodlights, veered away from the viridescent ice wall to his left, and headed north.

He remembered Valinda and felt the knot of hate in his stomach as his thoughts slid to Lejour while a tiny corner of his mind registered the opaque green on the viewscreen as the water swallowed his lights at the limit of visibility. There were fish at these latitudes, hardy black sharks cruising on the fringes of the killing polar cold in which only the worms could live. They watched him curiously as he passed

and their cold eyes glinted green and baleful in the glow of the floodlights. He remembered Valinda and the day she had saved his life with a well-aimed dart from the turret of Lejour's submarine. He had been inspecting a reluctant worm at close quarters and had not seen the shark as it circled above him, waiting its chance. But Valinda had seen it and he had felt a sudden, slight concussion; looking up, he saw the brute writhing and snapping at the dart projecting from its belly; blood trailed crimson in the water and he had thrashed his frantic way back to the submarine where Valinda held him close for a long time.

He thought of Lejour's face when he had seen him two days ago. The sudden shock of recognition and then a fear behind the Earthman's eyes. Lejour had remembered the day of their last meeting, when they had settled up Skunder's share of the contract price and the figure received by the Cantek had been exactly double what he had expected at the outset of the voyage. Lejour had made no demur about paying him Valinda's share; Skunder would have thought it was conscience money except for his conviction that Lejour was not the man to have a conscience.

'All yours, Cantek,' he had said generously. 'I'll be in touch when I get the next contract lined up.'

Skunder had regarded him silently for a while, the money in his hand. It would have been a pointless gesture to refuse it, so he merely said: 'Don't bother, Earthman. The next time you see me will be the last.' It had sounded melodramatic at the time but he had seen Lejour's eyes widen slightly, allowing the fear to peep out.

Skunder recalled himself to the present, adjusted the trim of the craft and skimmed just below the surface, raising the periscope. A rainbow blur of oil slid down the screen, cleared, and he could see Lejour's berg, riding high before him. He altered course to leave it to starboard and retracted the periscope. After a few minutes he dived, circling back, moving in close to the jagged wall of ice. Soon, he saw the phosphorescent flank of the worm.

A tired worm, driven hard for many days, uneasy due to the unaccustomed blackness of the oil-blanketed water. In-

side the berg, its flanks would be painful from the constant application of the scorching laser control.

It would be possible to persuade such a worm to leave the berg. A few well-placed mines about the rudimentary eyes ... He eased forward, following the vast segments of the body, moving towards the mouth. The glowing shape ended abruptly; a scattering of pilot fish darted about the region of the mouth, the little blue fish which followed the leviathans in order to feed from the spawn, in due course themselves becoming food for the growing worms. Skunder traversed the area, sizing up the most advantageous position for the mines behind that yawning mouth which filled the viewscreen. Suddenly he checked, throttled back and increased the magnification on the screen, his attention caught by a dark blob within the glowing mouth itself. The shape jumped into close-up, sleek; somehow patient and watchful.

Lejour's submarine. Lurking within the very mouth, guarding the huge creature against just such an attack as Skunder envisaged. He wondered if Lejour himself was at the controls, but deemed it unlikely. In the time that he had worked for the Earthman, Skunder had never known Lejour to go below the surface; like most Earthmen, he was scared of the worm. He would have sent Alvo down.

Nevertheless, he had out-thought Skunder and the Cantek knew a moment of sick frustration. In order to plant the mines he would have to leave the submarine; he would be picked off easily by Alvo's darts. For a while he patrolled to and fro outside the circumference of the mouth while the enemy craft twisted in sympathy, keeping him in the centre of its viewscreen.

A tell-tale light flashed on the control panel and Skunder dampened the miniature pile hastily; the reactor was beginning to overheat. He cursed Erkelen's ramshackle equipment; this was the worst moment for a breakdown to occur. Lejour's modern submarine, naturally, had automatic dampers. He cruised slowly away, around the rim of the mouth, followed by his watchful adversary. A dart clanged off his

hull; a warning shot to remind him what the enemy could do if he tried to leave his craft to affix the mines.

He moved around the perimeter of the mouth, shadowed by the vigilant shape behind. He thought of Lejour on the surface of the berg, smiling grimly as the news of his futile attempt to cripple the worm was radioed back. He knew hate, frustrated and sickening.

And ahead, a ragged, star-shaped gash in the worm's lip, legacy of a bygone mine injury ...

He veered away, his thoughts whirling, jetteted a short distance into the open sea and turned, headed back, gained his bearings and stared at the scar as he approached.

Bergworms are long-lived, some make many voyages to and from the polar ice-caps ...

Again he saw Valinda swimming towards him, he saw the bright flash and the jagged wound, just there, just there ...

And Lejour smiling into the radio receiver.

He dragged at the damper control. The warning light flickered.

He drove forward.

Erkelens stood on the lip of the drifting berg, staring at the viscous sea; soon Rosskidd joined him.

'I've sent a distress signal,' said the mate. 'It seems there's a ship only a few miles away. They'll pick us up before long. They complained a bit about having to detour through the oil, but I made it clear we were Earthmen.'

Erkelens glanced at him, then smiled bitterly.

'What about the berg?' resumed Rosskidd. 'Do we just leave it here?'

'The luck of the game. This one's no use to anyone, now the worm's dead. It's not the sort of thing you can take in tow.'

'That's true...' Rosskidd was watching Lejour's berg as it moved steadily away. 'What's that?' he asked, wondering.

Half a mile away, the glittering mass became suddenly indistinct, hazed with a corona of fine particles of snow and ice, refracting multi-coloured in the low sun. The sea

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